Drinking Water Surveillance Program

WALLACEBURG WATER TREATMENT PLANT

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WALLACEBURG
WATER TREATMENT PLANT

DRINKING WATER SURVEILLANCE PROGRAM

ANNUAL REPORT 1989

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EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

WALLACEBURG WATER TREATMENT PLANT
1989 ANNUAL REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario is a monitoring program providing immediate, reliable, current information on drinking water quality. The DWSP officially began in April 1986 and is designed to eventually include all municipal supplies in Ontario. In 1989, 65 plants were being monitored.

The Wallaceburg Water Treatment Plant is a conventional treatment plant that treats water from the St. Clair River via the Chenal Ecarte. The treatment process consists of coagulation, flocculation, sedimentation, filtration, disinfection and fluoridation. This plant has a design capacity of 13.5 x 1000 m^3/day and serves a population of 12,300.

Water samples from the raw, treated and two distribution sites were analyzed for the presence of approximately 180 parameters, 13 times during 1989. Parameters were divided into the following groups: Bacteriological, Inorganic and Physical (Laboratory Chemistry, Field Chemistry and Metals) and Organics (Chloroaromatics, Chlorophenols, Pesticides and PCB, Phenolics, Polyaromatic Hydrocarbons, Specific Pesticides and Volatiles). Specific Pesticides and Chlorophenols were analyzed in June and November only.

A summary of results is shown in Table A.

Inorganic and Physical parameters (Laboratory Chemistry, Field Chemistry and Metals) were below any applicable health related guidelines.

Samples were analyzed monthly for the presence of approximately 110 Organics. Levels did not exceed health related guidelines.

During 1989, the DWSP sampling results indicated that the Wallaceburg Water Treatment Plant produced good quality water at the plant and this quality was maintained in the distribution system.

TABLE A

DRINKING WATER SURVEILLANCE PROGRAM WALLACEBURG WTP

SUMMARY TABLE BY SCAN

SCAN	RAW			TREATED			SITE 1			SITE 2		
	TESTS	POSITIVE	%POSITIVE	TESTS	POSITIVE	%POSITIVE	TESTS	POSITIVE	%POSITIVE	TESTS	POSITIVE	%POSITIVE
BACTERIOLOGICAL	36	31	86	36	4	11	33	1	3	33	3	9
CHEMISTRY (FLD)	44	38	86	78	78	100	144	143	99	132	129	97
CHEMISTRY (LAB)	273	212	77	263	182	69	428	369	86	399	327	81
METALS	312	172	55	289	127	43	564	299	53	516	260	50
CHLOROAROMATICS	181	0	0	181	0	0	168	0	0	154	0	0
CHLOROPHENOLS	12	0	0	12	0	0	.	.	.	.	.	.
PAH	204	0	0	204	0	0	.	.	.	.	.	.
PESTICIDES & PCB	442	0	0	442	0	0	343	0	0	309	0	0
PHENOLICS	11	6	54	13	3	23	.	.	.	.	.	.
SPECIFIC PESTICIDES	54	0	0	66	0	0	12	0	0	11	0	0
VOLATILES	378	2	0	377	52	13	319	44	13	319	45	14
TOTAL	1947	461	.	1961	446		2011	856		1873	764	

NO KNOWN HEALTH RELATED GUIDELINES WERE EXCEEDED

A POSITIVE VALUE DENOTES THAT THE RESULT IS GREATER THAN THE STATISTICAL LIMIT OF DETECTION AND IS QUANTIFIABLE
A '.' INDICATES THAT NO SAMPLE WAS TAKEN

DRINKING WATER SURVEILLANCE PROGRAM

WALLACEBURG WATER TREATMENT PLANT
1989 ANNUAL REPORT

INTRODUCTION

The Drinking Water Surveillance Program (DWSP) for Ontario is a monitoring program providing immediate, reliable, current information on drinking water quality. The DWSP officially began in April 1986 and is designed to eventually include all municipal supplies in Ontario. In 1989, 65 plants were being monitored.

The DWSP was initiated at the Wallaceburg Water Treatment Plant in May 1986. Annual reports were published for 1986 (ISBN 0-7729-2567-4), 1987 and 1988(ISSN 0839-9018). Other historical Wallaceburg Water Treatment Plant data is available in the "Drinking Water Survey St. Clair - Detroit River Area" published by the Ministry of the Environment in 1986.

This report contains information and results for 1989.

In order to accommodate the increased number of plants on the DWSP and to facilitate the timely completion of the 1989 annual reports, plants with two or more years of published data will receive an abbreviated annual report. This report maintains the same general format as in previous years but does not include a

comprehensive discussion of the results. For more detail on the parameters analyzed and discussion of the results, consult the 1987 and 1988 reports.

PLANT DESCRIPTION

The Wallaceburg Water Treatment Plant is a conventional treatment plant that treats water from the St. Clair River via the Chenal Ecarte. The process consists of coagulation, flocculation, sedimentation, filtration, disinfection and fluoridation. Sodium Chlorite and chlorine are used to generate chlorine dioxide for the post-chlorination process. Powdered activated carbon adsorption is added for taste and odour control. This plant has a design capacity of 13.5 x 1000 m^3/day and flows on day of sampling ranging from 9 x 1000 m^3/day to 11 x 1000 m^3/day. It serves a population of 12,300. The plant also provides water for a major cannery.

The plant location is shown in Figure 1. Plant Process details, in a block schematic, are shown in Figure 2. General plant information is presented in Table 2.

SAMPLING AND ANALYSIS

Plant operating personnel perform analyses on parameters for process control (Table 1).

FIGURE 1

DRINKING WATER SURVEILLANCE PROGRAM

SITE LOCATION MAP

WALLACEBURG WATER TREATMENT PLANT

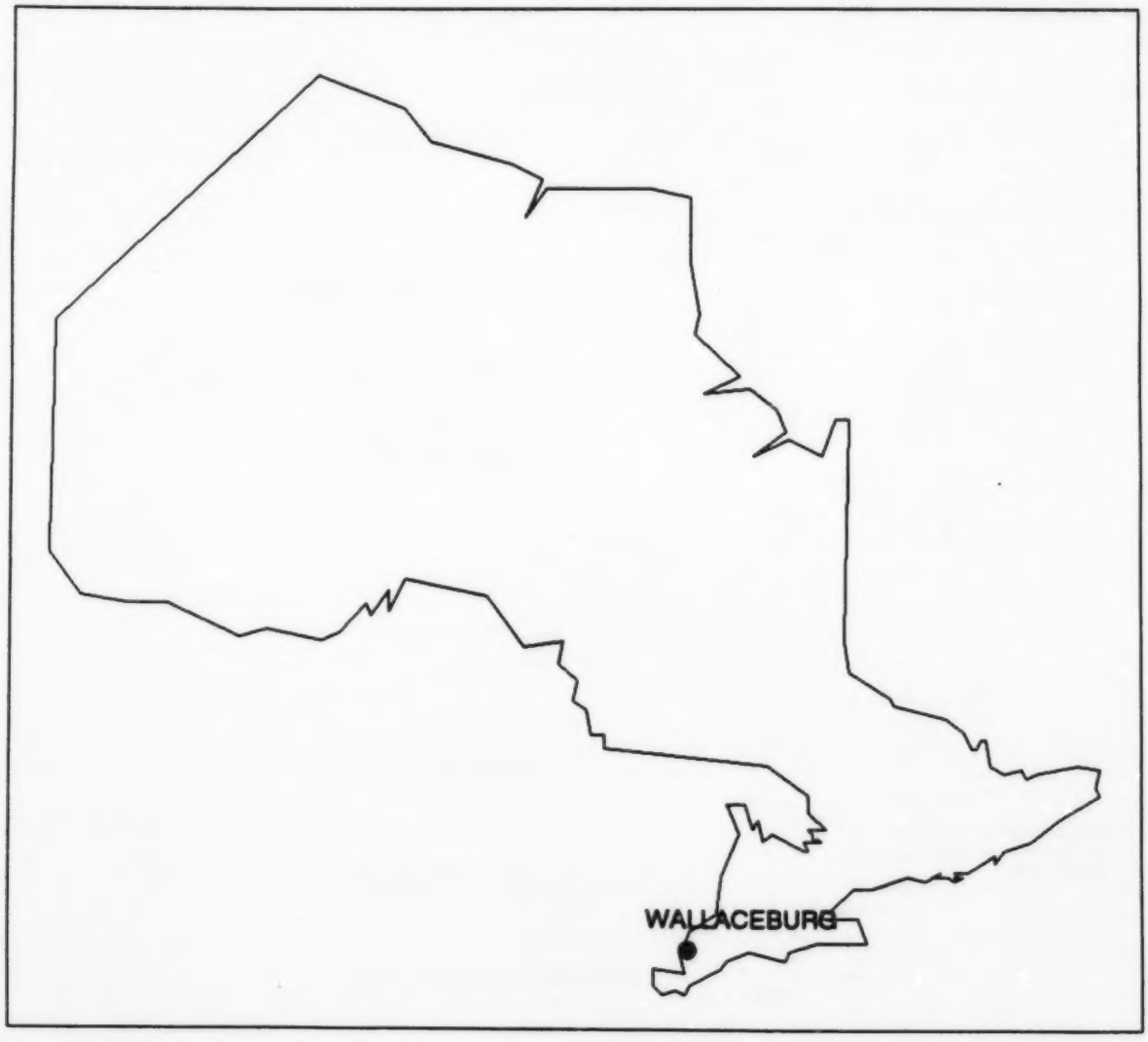

FIGURE 2

WALLACEBURG WTP

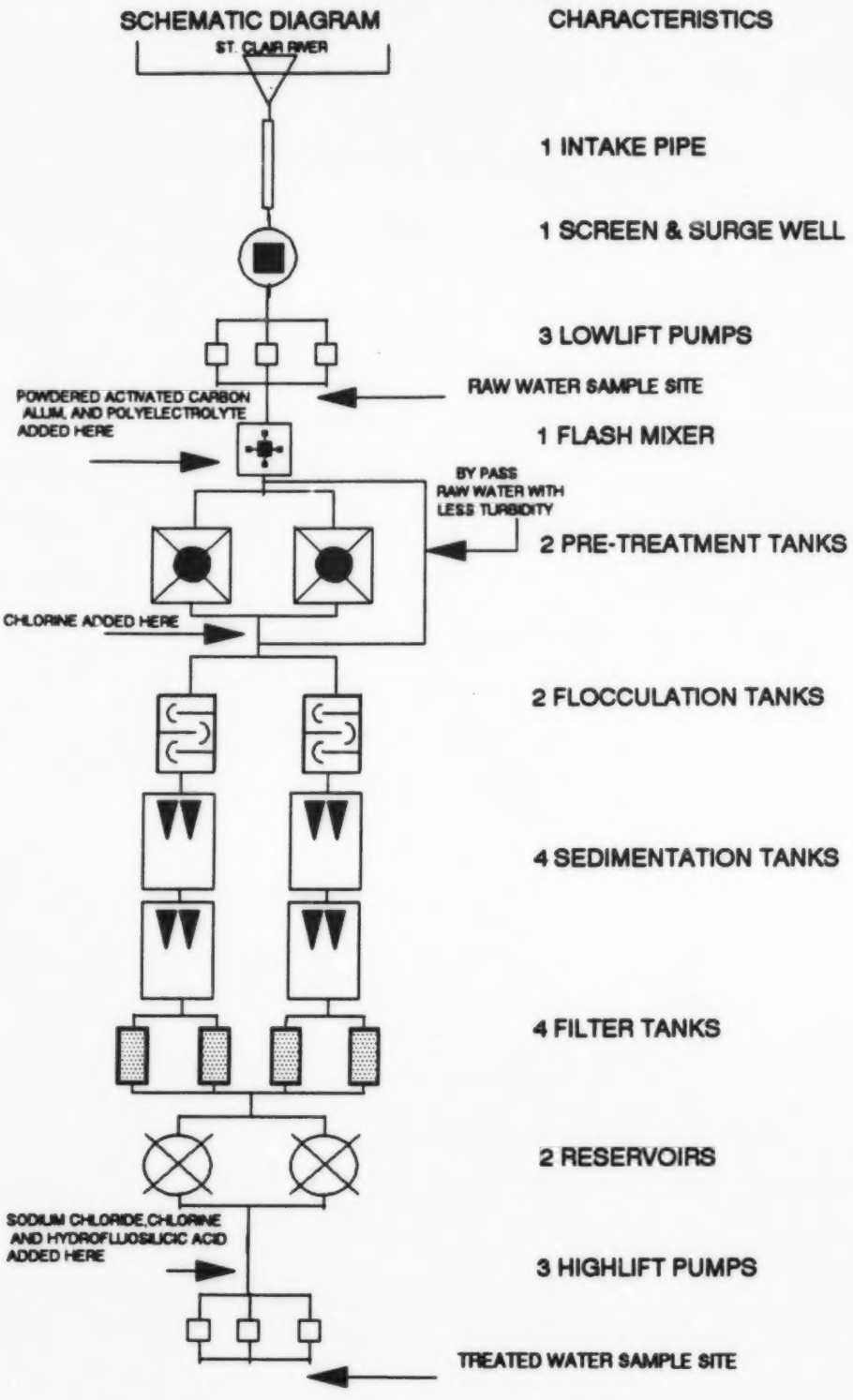

TABLE 1

DRINKING WATER SURVEILLANCE PROGRAM ANNUAL REPORT

IN-PLANT MONITORING WALLACEBURG WTP 1989

PARAMETER	LOCATION	FREQUENCY
Chlorine Residual	Treated	continuous
Turbidity	Raw Treated	4 hours continuous
Temperature	Raw	daily

TABLE 2

DRINKING WATER SURVEILLANCE PROGRAM ANNUAL REPORT

GENERAL INFORMATION

WALLACEBURG WATER SUPPLY SYSTEM

LOCATION:	152 DUNCAN STREET WALLACEBURG, ONTARIO N8A 4E2 (519-627-2277)
SOURCE:	RAW WATER SOURCE - ST CLAIR RIVER VIA THE CHENAL ECARTE
DESIGN CAPACITY:	13.5 (1000 M^3/DAY)
OPERATION:	MUNICIPALITY
GENERAL MANAGER:	L. DENYS
MINISTRY REGION:	SOUTHWESTERN
DISTRICT OFFICER:	O. WIGLE

MUNICIPALITY SERVED	POPULATION
WALLACEBURG	12,300

Water at the Wallaceburg Water Treatment plant and two sites in the distribution system was sampled for the presence of approximately 180 parameters, 13 times in 1989. Samples were analyzed for Specific Pesticides and Chlorophenols in June and November only. Only the raw and treated water at the plant were analyzed for Polyaromatic Hydrocarbons and Phenolics. As of August 1989, the analysis of Triazine pesticides was dropped from the distribution sample. Laboratory analysis was conducted at the Ministry of the Environment facilities in Rexdale, Ontario.

RESULTS

Field Chemistry measurements were recorded on the day of sampling and were entered on the DWSP database as submitted by plant personnel.

Table 3 contains information on the sample day retention time, flow rate and treatment chemicals used and their associated dosages.

Table 4 is a summary break-down of the number of water samples analyzed by parameter and by water type. The number of times that a positive or trace result was detected is also reported. Positive denotes that the result is greater than the statistical limit of detection established by the Ministry of the Environment (MOE) laboratory staff and is quantifiable. Trace (<T) denotes that the level measured is greater than the lowest value detectable by the method but lies so close to the detection limit that it cannot be

confidently quantified.

Table 5 presents the results for parameters detected on at least one occasion.

Table 6 lists all parameters analyzed on DWSP.

Associated guidelines and detection limits are also supplied on tables 5 and 6. Parameters are listed alphabetically within each scan.

DISCUSSION

General

Water quality is judged by comparison with the Ontario Drinking Water Objectives (ODWOs) as defined in the 1984 publication (ISBN 0-7743-8985-0). The Province of Ontario has health related and aesthetic objectives for 49 parameters. These are currently under review. When an ODWO is not available, guidelines/limits from other agencies are consulted. The Parameters Listing System (PALIS), recently published (ISBN 0-7729-4461-X) by the MOE, catalogues and keeps current over 1750 guidelines for 650 parameters from agencies throughout the world.

Many of the compounds detected are naturally occurring or are treatment by-products.

IN THIS REPORT, DISCUSSION IS LIMITED TO THE TREATED AND DISTRIBUTED WATER AND ADDRESSES ONLY THOSE PARAMETERS WITH CONCENTRATIONS ABOVE GUIDELINE VALUES AND ORGANIC PARAMETERS WITH POSITIVE RESULTS.

Results for the treated and distributed water indicate that no health related guideline was exceeded in 1989.

Inorganic and Physical Parameters

Ammonia

Total Ammonium levels were high in one distribution system sample. While the European Economic Community has an aesthetic guideline of .05 mg/L, the Maximum Admissible Concentration is .50 mg/L and is set as a result of the concern for potential sewage pollution and its detection.

Fluoride

The laboratory results indicate that fluoride was below the ODWO recommended range of 1.0-1.4 mg/L in ten treated and distributed samples. The Fluoride feed system was shut down in May.

Hardness

The ODWOs indicate that a hardness level of between 80 and 100 mg/L, as calcium carbonate for domestic waters, provides an acceptable balance between corrosion and encrustation. Water supplies with a hardness greater than 200 mg/L are considered poor

and would possess a tendency to form scale deposits and result in excessive soap consumption.

Organic Parameters

Toluene

Toluene was detected positive in April in one distribution water sample. The result of 0.5 µg/L did not exceed the aesthetic guideline for Toluene of 24 µg/L set by Health and Welfare Canada.

Trihalomethanes

Trihalomethanes (THMs) are acknowledged to be produced during the water treatment process and will always occur in chlorinated surface waters. THMs are comprised of Chloroform, Chlorodibromomethane and Dichlorobromomethane. Bromoform occurs occasionally at trace levels. Results are reported for both the individual compounds and the total THMs. All Total THM occurrences in the treated and distributed samples, ranging from 13.8 µg/L to 45.6 µg/L, were well below the ODWO of 350 µg/L.

CONCLUSIONS

Results listed in this report for 1989 are consistent with results reported for previous years.

No health related water quality guidelines were exceeded.

The treated water was of good quality and this was maintained in the distribution system.

TABLE 3

DRINKING WATER SURVEILLANCE PROGRAM WALLACEBURG WTP SAMPLE DAY CONDITIONS FOR 1989

	SAMPLE DAY CONDITIONS		TREATMENT CHEMICAL DOSAGES (MG/L)					
			PRE-CHLORINATION	COAGULATION	TASTE & ODOUR	POST-CHLORINATION		FLUORIDATION
DATE	DELAY* TIME(HRS)	FLOW (1000M3)	CHLORINE	ALUM LIQUID	ACTIVATED CARBON POWDER	CHLORINE	SODIUM CHLORITE	HYDROFLUOSILICIC ACID
JAN 11	13.0	9.0	1.03	1.00	5.00	.	.38	1.35
FEB 15	13.0	9.0	1.02	1.00	5.00	.	.38	1.35
FEB 24	.	.	1.10	15.00	.50	.	.30	1.20
FEB 25	16.9	8.2	1.10	15.00	.50	.	.30	1.20
MAR 15	13.0	9.0	1.02	1.00	5.00	.	.38	1.35
APR 12	24.0	.	1.02	1.00	5.00	.	.38	1.35
MAY 10	13.0	9.0	1.02	15.00	5.00	.	.38	1.00
JUN 14	13.0	9.0	1.06	1.00	5.00	.38	.	1.00
JUL 12	13.0	9.0	1.01	1.00	5.00	.	.38	1.00
AUG 16	13.0	9.0	1.01	15.00	.	.	.38	1.20
SEP 13	13.0	9.0	1.01	15.00	5.00	.	.38	1.20
OCT 12	13.0	9.0	1.01	15.00	5.00	.	.38	1.20
NOV 15	13.0	9.0	1.10	15.00	5.00	.38	.	1.20
DEC 13	13.0	9.0	1.05	15.00	5.00	.	.38	1.20

* THE DELAY TIME BETWEEN THE RAW AND TREATED WATER SAMPLING, SHOULD ESTIMATE THE RETENTION TIME.

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM WALLACEBURG

SUMMARY TABLE OF RESULTS (1989)

SCAN	PARAMETER	RAW			TREATED			SITE 1			SITE 2		
		TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE
BACTERIOLOGICAL	FECAL COLIFORM MF	12	9	0	.	.	.	.	.	.	.	.	.
	STANDRD PLATE CNT MF	.	.	.	12	2	0	11	1	0	11	3	0
	TOTAL COLIFORM MF	12	10	0	12	1	0	11	0	0	11	0	0
	T COLIFORM BCKGRD MF	12	12	0	12	1	0	11	0	0	11	0	0
*TOTAL SCAN BACTERIOLOGICAL		36	31	0	36	4	0	33	1	0	33	3	0
*TOTAL GROUP BACTERIOLOGICAL		36	31	0	36	4	0	33	1	0	33	3	0
CHEMISTRY (FLD)	FLD CHLORINE (COMB)	2	0	0	13	13	0	24	23	0	22	21	0
	FLD CHLORINE FREE	2	0	0	13	13	0	24	24	0	22	21	0
	FLD CHLORINE (TOTAL)	2	0	0	13	13	0	24	24	0	22	21	0
	FLD PH	13	13	0	13	13	0	24	24	0	22	22	0
	FLD TEMPERATURE	12	12	0	13	13	0	24	24	0	22	22	0
	FLD TURBIDITY	13	13	0	13	13	0	24	24	0	22	22	0
*TOTAL SCAN CHEMISTRY (FLD)		44	38	0	78	78	0	144	143	0	132	129	0
CHEMISTRY (LAB)	ALKALINITY	13	13	0	13	13	0	24	24	0	22	22	0
	CALCIUM	13	13	0	13	13	0	24	24	0	22	22	0
	CYANIDE	13	0	0	13	0	0	12	0	0	11	0	0
	CHLORIDE	13	13	0	13	13	0	24	24	0	22	22	0
	COLOUR	13	0	13	13	0	8	24	14	10	22	5	17
	CONDUCTIVITY	13	13	0	13	13	0	24	24	0	22	22	0

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM WALLACEBURG

SUMMARY TABLE OF RESULTS (1989)

		SITE											
		RAW			TREATED			SITE 1			SITE 2		
SCAN	PARAMETER	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE
CHEMISTRY (LAB)	FLUORIDE	13	11	0	13	13	0	24	24	0	22	22	0
	HARDNESS	13	13	0	13	13	0	24	24	0	22	22	0
	IONCAL	13	13	0	13	13	0	24	24	0	22	22	0
	LANGELIERS INDEX	13	13	0	3	3	0	8	8	0	14	14	0
	MAGNESIUM	13	13	0	13	13	0	24	24	0	22	22	0
	SODIUM	13	13	0	13	13	0	24	24	0	22	22	0
	AMMONIUM TOTAL	13	7	6	13	3	1	24	12	7	22	7	7
	NITRITE	13	5	8	13	1	4	24	2	20	22	2	15
	TOTAL NITRATES	13	13	0	13	13	0	24	24	0	22	22	0
	NITROGEN TOT KJELD	13	13	0	13	7	6	24	21	3	22	15	7
	PH	13	13	0	13	13	0	24	24	0	22	22	0
	PHOSPHORUS FIL REACT	13	2	8	13	0	4	.	.	.	.	.	.
	PHOSPHORUS TOTAL	13	5	8	13	0	5	.	.	.	.	.	.
	SULPHATE	13	13	0	13	13	0	24	24	0	22	22	0
	TURBIDITY	13	13	0	13	12	1	24	24	0	22	20	2
*TOTAL SCAN CHEMISTRY (LAB)		273	212	43	263	182	29	428	369	40	399	327	48
METALS	SILVER	13	0	4	12	1	7	24	0	12	22	0	5
	ALUMINUM	13	13	0	12	12	0	24	24	0	22	22	0
	ARSENIC	13	5	8	12	3	9	24	1	23	22	0	22
	BARIUM	13	13	0	12	12	0	24	24	0	22	22	0
	BORON	13	11	2	12	8	4	24	19	5	22	17	5
	BERYLLIUM	13	0	9	12	0	7	24	0	11	22	0	14

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM WALLACEBURG

SUMMARY TABLE OF RESULTS (1989)

SCAN	PARAMETER	SITE RAW TOTAL	RAW POSITIVE	RAW TRACE	TREATED TOTAL	TREATED POSITIVE	TREATED TRACE	SITE 1 TOTAL	SITE 1 POSITIVE	SITE 1 TRACE	SITE 2 TOTAL	SITE 2 POSITIVE	SITE 2 TRACE
METALS	CADMIUM	13	0	5	12	0	1	24	0	7	22	0	3
	COBALT	13	1	12	12	0	12	24	0	22	22	0	21
	CHROMIUM	13	11	0	12	8	2	24	19	1	22	15	3
	COPPER	13	12	1	12	9	3	24	23	1	22	21	1
	IRON	13	8	5	12	0	11	24	20	4	22	10	12
	MERCURY	13	0	10	13	0	7	12	0	10	10	0	3
	MANGANESE	13	13	0	12	3	9	24	24	0	22	22	0
	MOLYBDENUM	13	10	3	12	10	2	24	17	7	22	14	8
	NICKEL	13	0	13	12	0	12	24	4	20	22	1	18
	LEAD	13	12	1	12	6	5	24	18	6	22	18	4
	ANTIMONY	13	13	0	12	11	1	24	23	1	22	21	1
	SELENIUM	13	0	7	12	0	9	24	0	19	22	1	14
	STRONTIUM	13	13	0	12	12	0	24	24	0	22	22	0
	TITANIUM	13	12	1	12	11	1	24	22	2	22	20	2
	THALLIUM	13	0	4	12	0	2	24	0	7	22	0	6
	URANIUM	13	12	1	12	0	12	24	0	24	22	4	17
	VANADIUM	13	0	13	12	10	2	24	14	10	22	9	13
	ZINC	13	13	0	12	11	1	24	23	1	22	21	1
*TOTAL SCAN METALS		312	172	99	289	127	119	564	299	193	516	260	173
*TOTAL GROUP INORGANIC & PHYSICAL		629	422	142	630	387	148	1136	811	233	1047	716	221
CHLOROAROMATICS	HEXACHLOROBUTADIENE	13	0	1	13	0	0	12	0	0	11	0	0
	123 TRICHLOROBENZENE	13	0	0	13	0	0	12	0	0	11	0	0

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM WALLACEBURG

SUMMARY TABLE OF RESULTS (1989)

SCAN	PARAMETER	SITE RAW TOTAL	RAW POSITIVE	RAW TRACE	TREATED TOTAL	TREATED POSITIVE	TREATED TRACE	SITE 1 TOTAL	SITE 1 POSITIVE	SITE 1 TRACE	SITE 2 TOTAL	SITE 2 POSITIVE	SITE 2 TRACE
CHLOROAROMATICS	1234 T-CHLOROBENZENE	13	0	0	13	0	0	12	0	0	11	0	0
	1235 T-CHLOROBENZENE	13	0	0	13	0	0	12	0	0	11	0	0
	124 TRICHLOROBENZENE	13	0	0	13	0	0	12	0	0	11	0	0
	1245 T-CHLOROBENZENE	13	0	0	13	0	0	12	0	0	11	0	0
	135 TRICHLOROBENZENE	13	0	0	13	0	0	12	0	0	11	0	0
	HCB	13	0	0	13	0	0	12	0	0	11	0	0
	HEXACHLOROETHANE	12	0	0	12	0	0	12	0	0	11	0	0
	OCTACHLOROSTYRENE	13	0	0	13	0	0	12	0	0	11	0	0
	PENTACHLOROBENZENE	13	0	0	13	0	0	12	0	0	11	0	0
	236 TRICHLOROTOLUENE	13	0	0	13	0	0	12	0	0	11	0	0
	245 TRICHLOROTOLUENE	13	0	0	13	0	0	12	0	0	11	0	0
	26A TRICHLOROTOLUENE	13	0	0	13	0	0	12	0	0	11	0	0
*TOTAL SCAN CHLOROAROMATICS		181	0	1	181	0	0	168	0	0	154	0	0
CHLOROPHENOLS	234 TRICHLOROPHENOL	2	0	0	2	0	0	.	.	.	.	.	.
	2345 T-CHLOROPHENOL	2	0	0	2	0	0	.	.	.	.	.	.
	2356 T-CHLOROPHENOL	2	0	0	2	0	0	.	.	.	.	.	.
	245-TRICHLOROPHENOL	2	0	0	2	0	0	.	.	.	.	.	.
	246-TRICHLOROPHENOL	2	0	0	2	0	0	.	.	.	.	.	.
	PENTACHLOROPHENOL	2	0	0	2	0	0	.	.	.	.	.	.
*TOTAL SCAN CHLOROPHENOLS		12	0	0	12	0	0	0	0	0	0	0	0

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM WALLACEBURG

SUMMARY TABLE OF RESULTS (1989)

SCAN	PARAMETER	SITE RAW TOTAL	RAW POSITIVE	RAW TRACE	TREATED TOTAL	TREATED POSITIVE	TREATED TRACE	SITE 1 TOTAL	SITE 1 POSITIVE	SITE 1 TRACE	SITE 2 TOTAL	SITE 2 POSITIVE	SITE 2 TRACE
PAH	PHENANTHRENE	12	0	0	12	0	0	.	.	.	.	.	.
	ANTHRACENE	11	0	0	11	0	0	.	.	.	.	.	.
	FLUORANTHENE	12	0	0	12	0	0	.	.	.	.	.	.
	PYRENE	12	0	0	12	0	0	.	.	.	.	.	.
	BENZO(A)ANTHRACENE	13	0	0	13	0	0	.	.	.	.	.	.
	CHRYSENE	13	0	0	13	0	0	.	.	.	.	.	.
	DIMETH. BENZ(A)ANTHR	8	0	0	8	0	0	.	.	.	.	.	.
	BENZO(E) PYRENE	13	0	0	13	0	0	.	.	.	.	.	.
	BENZO(B) FLUORANTHEN	13	0	0	13	0	0	.	.	.	.	.	.
	PERYLENE	13	0	0	13	0	0	.	.	.	.	.	.
	BENZO(K) FLUORANTHEN	13	0	0	13	0	0	.	.	.	.	.	.
	BENZO(A) PYRENE	7	0	0	7	0	0	.	.	.	.	.	.
	BENZO(G,H,I) PERYLEN	13	0	0	13	0	0	.	.	.	.	.	.
	DIBENZO(A,H) ANTHRAC	13	0	0	13	0	0	.	.	.	.	.	.
	INDENO(1,2,3-C,D) PY	12	0	0	12	0	0	.	.	.	.	.	.
	BENZO(B) CHRYSENE	13	0	0	13	0	0	.	.	.	.	.	.
	CORONENE	13	0	0	13	0	0	.	.	.	.	.	.
*TOTAL SCAN PAH		204	0	0	204	0	0	0	0	0	0	0	0
PESTICIDES & PCB	ALDRIN	13	0	0	13	0	0	12	0	0	11	0	0
	ALPHA BHC	13	0	9	13	0	2	12	0	0	11	0	3
	BETA BHC	13	0	0	13	0	0	12	0	0	11	0	0
	LINDANE	13	0	1	13	0	0	12	0	0	11	0	0

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM WALLACEBURG

SUMMARY TABLE OF RESULTS (1989)

SCAN	PARAMETER	SITE RAW TOTAL	RAW POSITIVE	RAW TRACE	TREATED TOTAL	TREATED POSITIVE	TREATED TRACE	SITE 1 TOTAL	SITE 1 POSITIVE	SITE 1 TRACE	SITE 2 TOTAL	SITE 2 POSITIVE	SITE 2 TRACE
PESTICIDES & PCB	ALPHA CHLORDANE	13	0	0	13	0	0	12	0	0	11	0	0
	GAMMA CHLORDANE	13	0	0	13	0	0	12	0	0	11	0	0
	DIELDRIN	13	0	0	13	0	0	12	0	0	11	0	0
	METHOXYCHLOR	13	0	0	13	0	0	12	0	0	11	0	0
	ENDOSULFAN I	13	0	0	13	0	0	12	0	0	11	0	0
	ENDOSULFAN II	13	0	0	13	0	0	12	0	0	11	0	0
	ENDRIN	13	0	0	13	0	0	12	0	0	11	0	0
	ENDOSULFAN SULPHATE	13	0	0	13	0	0	12	0	0	11	0	0
	HEPTACHLOR EPOXIDE	13	0	0	13	0	0	12	0	0	11	0	0
	HEPTACHLOR	13	0	0	13	0	0	12	0	0	11	0	0
	MIREX	13	0	0	13	0	0	12	0	0	11	0	0
	OXYCHLORDANE	13	0	0	13	0	0	12	0	0	11	0	0
	OPDDT	13	0	0	13	0	0	12	0	0	11	0	0
	PCB	13	0	0	13	0	0	12	0	0	11	0	0
	DDD	13	0	0	13	0	0	12	0	0	11	0	0
	PPDDE	13	0	0	13	0	0	12	0	0	11	0	0
	PPDDT	13	0	0	13	0	0	12	0	0	11	0	0
	AMETRINE	13	0	0	13	0	0	7	0	0	6	0	0
	ATRAZINE	13	0	2	13	0	0	7	0	0	6	0	0
	ATRATONE	13	0	0	13	0	0	7	0	0	6	0	0
	CYANAZINE (BLADEX)	13	0	0	13	0	0	7	0	0	6	0	0
	D-ETHYL ATRAZINE	13	0	0	13	0	0	7	0	0	6	0	0
	D-ETHYL SIMAZINE	13	0	0	13	0	0	7	0	0	6	0	0
	PROMETONE	13	0	0	13	0	0	7	0	0	6	0	0
	PROPAZINE	13	0	0	13	0	0	7	0	0	6	0	0

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM WALLACEBURG

SUMMARY TABLE OF RESULTS (1989)

SCAN	PARAMETER	SITE	RAW			TREATED			SITE 1			SITE 2		
		TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE
PESTICIDES & PCB	PROMETRYNE	13	0	0	13	0	0	7	0	0	6	0	0
	METRIBUZIN (SENCOR)	13	0	0	13	0	0	7	0	0	6	0	0
	SIMAZINE	13	0	0	13	0	0	7	0	0	6	0	0
	ALACHLOR (LASSO)	13	0	0	13	0	0	7	0	0	6	0	0
	METOLACHLOR	13	0	0	13	0	0	7	0	0	6	0	0
*TOTAL SCAN PESTICIDES & PCB		442	0	12	442	0	2	343	0	0	309	0	3
PHENOLICS	PHENOLICS	11	6	3	13	3	7	.	.	.	.	.	.
*TOTAL SCAN PHENOLICS		11	6	3	13	3	7	0	0	0	0	0	0
SPECIFIC PESTICIDES	TOXAPHENE	13	0	0	13	0	0	12	0	0	11	0	0
	2,4,5-T	2	0	0	2	0	0	.	.	.	.	.	.
	2,4-D	2	0	0	2	0	0	.	.	.	.	.	.
	2,4-DB	2	0	0	2	0	0	.	.	.	.	.	.
	2,4 D PROPIONIC ACID	2	0	0	2	0	0	.	.	.	.	.	.
	DICAMBA	2	0	0	2	0	0	.	.	.	.	.	.
	PICHLORAM	0	0	0	0	0	0	.	.	.	.	.	.
	SILVEX	2	0	0	2	0	0	.	.	.	.	.	.
	DIAZINON	1	0	0	2	0	0	.	.	.	.	.	.
	DICHLOROVOS	1	0	0	2	0	0	.	.	.	.	.	.
	CHLORPYRIFOS	1	0	0	2	0	0	.	.	.	.	.	.

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM WALLACEBURG

SUMMARY TABLE OF RESULTS (1989)

		SITE											
		RAW			TREATED			SITE 1			SITE 2		
SCAN	PARAMETER	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE
SPECIFIC PESTICIDES	ETHION	1	0	0	2	0	0	.	.	.	.	.	.
	AZINPHOS-METHYL	0	0	0	0	0	0	.	.	.	.	.	.
	MALATHION	1	0	0	2	0	0	.	.	.	.	.	.
	MEVINPHOS	1	0	0	2	0	0	.	.	.	.	.	.
	METHYL PARATHION	1	0	0	2	0	0	.	.	.	.	.	.
	METHYLTRITHION	1	0	0	2	0	0	.	.	.	.	.	.
	PARATHION	1	0	0	2	0	0	.	.	.	.	.	.
	PHORATE	1	0	0	2	0	0	.	.	.	.	.	.
	RELDAN	1	0	0	2	0	0	.	.	.	.	.	.
	RONNEL	1	0	0	2	0	0	.	.	.	.	.	.
	AMINOCARB	0	0	0	0	0	0	.	.	.	.	.	.
	BENOMYL	1	0	0	1	0	0	.	.	.	.	.	.
	BUX	0	0	0	0	0	0	.	.	.	.	.	.
	CARBOFURAN	2	0	0	2	0	0	.	.	.	.	.	.
	CICP	2	0	0	2	0	0	.	.	.	.	.	.
	DIALLATE	2	0	0	2	0	0	.	.	.	.	.	.
	EPTAM	2	0	0	2	0	0	.	.	.	.	.	.
	IPC	2	0	0	2	0	0	.	.	.	.	.	.
	PROPOXUR	2	0	0	2	0	0	.	.	.	.	.	.
	CARBARYL	2	0	0	2	0	0	.	.	.	.	.	.
	BUTYLATE	2	0	0	2	0	0	.	.	.	.	.	.
*TOTAL SCAN SPECIFIC PESTICIDES		54	0	0	66	0	0	12	0	0	11	0	0
VOLATILES	BENZENE	14	1	9	13	0	8	11	0	6	11	0	5

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM WALLACEBURG

SUMMARY TABLE OF RESULTS (1989)

SCAN	PARAMETER	SITE RAW TOTAL	RAW POSITIVE	RAW TRACE	TREATED TOTAL	TREATED POSITIVE	TREATED TRACE	SITE 1 TOTAL	SITE 1 POSITIVE	SITE 1 TRACE	SITE 2 TOTAL	SITE 2 POSITIVE	SITE 2 TRACE
VOLATILES	TOLUENE	13	1	4	13	0	6	11	0	6	11	1	4
	ETHYLBENZENE	13	0	5	13	0	2	11	0	3	11	0	3
	P-XYLENE	13	0	0	13	0	0	11	0	0	11	0	0
	M-XYLENE	13	0	3	13	0	1	11	0	1	11	0	1
	O-XYLENE	13	0	3	13	0	2	11	0	1	11	0	1
	STYRENE	13	0	6	13	0	3	11	0	6	11	0	5
	1,1 DICHLOROETHYLENE	13	0	0	13	0	0	11	0	0	11	0	0
	METHYLENE CHLORIDE	13	0	0	13	0	0	11	0	0	11	0	0
	T1,2DICHLOROETHYLENE	13	0	0	13	0	0	11	0	0	11	0	0
	1,1 DICHLOROETHANE	13	0	0	13	0	0	11	0	0	11	0	0
	CHLOROFORM	13	0	6	13	13	0	11	11	0	11	11	0
	111, TRICHLOROETHANE	13	0	2	13	0	1	11	0	1	11	0	1
	1,2 DICHLOROETHANE	13	0	0	13	0	0	11	0	0	11	0	0
	CARBON TETRACHLORIDE	13	0	0	13	0	1	11	0	1	11	0	0
	1,2 DICHLOROPROPANE	13	0	1	13	0	0	11	0	0	11	0	0
	TRICHLOROETHYLENE	13	0	0	13	0	0	11	0	0	11	0	0
	DICHLOROBROMOMETHANE	13	0	1	13	13	0	11	11	0	11	11	0
	112 TRICHLOROETHANE	13	0	0	13	0	0	11	0	0	11	0	0
	CHLORODIBROMOMETHANE	13	0	0	13	13	0	11	11	0	11	11	0
	T-CHLOROETHYLENE	13	0	1	13	0	1	11	0	2	11	0	2
	BROMOFORM	13	0	0	13	0	13	11	0	11	11	0	11
	1122 T-CHLOROETHANE	13	0	0	13	0	0	11	0	0	11	0	0
	CHLOROBENZENE	13	0	0	13	0	0	11	0	0	11	0	0
	1,4 DICHLOROBENZENE	13	0	0	13	0	0	11	0	0	11	0	0
	1,3 DICHLOROBENZENE	13	0	0	13	0	0	11	0	0	11	0	0

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM WALLACEBURG

SUMMARY TABLE OF RESULTS (1989)

SCAN	PARAMETER	SITE RAW TOTAL	RAW POSITIVE	RAW TRACE	TREATED TOTAL	TREATED POSITIVE	TREATED TRACE	SITE 1 TOTAL	SITE 1 POSITIVE	SITE 1 TRACE	SITE 2 TOTAL	SITE 2 POSITIVE	SITE 2 TRACE
VOLATILES	1,2 DICHLOROBENZENE	13	0	0	13	0	0	11	0	0	11	0	0
	ETHLYENE DIBROMIDE	13	0	0	13	0	0	11	0	0	11	0	0
	TOTL TRIHALOMETHANES	13	0	1	13	13	0	11	11	0	11	11	0
*TOTAL SCAN VOLATILES		378	2	42	377	52	38	319	44	38	319	45	33
*TOTAL GROUP ORGANIC		1282	8	58	1295	55	47	842	44	38	793	45	36
TOTAL		1947	461	200	1961	446	195	2011	856	271	1873	764	257

KEY TO TABLE 5 and 6

A ONTARIO DRINKING WATER OBJECTIVES (ODWO)

1. Maximum Acceptable Concentration (MAC)

1+. MAC for Total Trihalomethanes

1*. MAC for Bacteriological Analyses
Poor water quality is indicated when :
- total coliform counts > 0 < 5
- P/A Bottle Test is present after 48 hours
- Aeromonas organisms are detected in more than 25% of samples in a single submission or in successive submissions from the same sampling site
- Pseudomonas Aeruginosa, Staphylococcus Aureus and members of the Fecal Streptococcus group should not be detected in any sample
- Standard Plate Count should not exceed 500 organisms per ml at 35 ^{0}C within 48 hours

2. Interim Maximum Acceptable Concentration (IMAC)
3. Maximum Desirable Concentration (MDC)
4. Aesthetic or Recommended Operational Guideline
- hardness levels between 80 and 100 mg/L as calcium carbonate are considered to provide an acceptable balance between corrosion and incrustation, water supplies with a hardness >200 mg/L are considered poor and those in excess of 500 mg/L are unacceptable.

B HEALTH & WELFARE CANADA (H&W)
1. Maximum Acceptable Concentration (MAC)
2. Proposed MAC
3. Interim MAC
4. Aesthetic Objective (AO) (for xylenes, a total)

C WORLD HEALTH ORGANIZATION (WHO)
1. Guideline Value (GV)
2. Tentative GV
3. Aesthetic GV

D US ENVIRONMENTAL PROTECTION AGENCY (EPA)
1. Maximum Contaminant Level (MCL)
2. Suggested No-Adverse Effect Level (SNAEL)
3. Lifetime Health Advisory
4. EPA Ambient Water Quality Criteria
5. Maximum Contaminant Level Goal (MCLG)

F EUROPEAN ECONOMIC COMMUNITY (EEC)
1. Health Related Guideline Level
2. Aesthetic Guideline Level
3. Maximum Admissable Concentration (MADC)

G CALIFORNIA STATE DEPARTMENT OF HEALTH-GUIDELINE VALUE

H USSR MAXIMUM PERMISSIBLE CONCENTRATION

I NEW YORK STATE AMBIENT WATER GUIDELINE

N/A NONE AVAILABLE

INTERPRETATION OF DATA

The interpretation of analytical results that are obtained from measurements near the limit of detection of the measurement process is subject to greater uncertainty than those at higher concentrations. The principle areas of concern relate to whether the substance has actually been detected, whether it has been properly identified, and whether it is an artifact of the measurement process. In other words, false positives can be caused by the instrumentation or the test procedures used, when in fact these compounds are not present in the sample.

There are several methods to treat data from such measurements:
1. Exclude the low-level data because of this uncertainty factor. Studies of long-term environmental trends and modelling may however, be adversely affected by the exclusion of such data.
2. Qualify these data so the user is aware of the greater uncertainty associated with their use.

For the Drinking Water Surveillance Program, measurements near the limit of detection of the measurement process are reported with the code "<T". Results qualified by "W" indicate a zero measurement. These results are reported for purposes of modelling and long-term trend analysis and no significance should be attributed to a single determination of a substance below "T" (a single determination may well be a false positive). Repeat analysis or additional data are needed before it can be stated with certainty that the substance in question was truly present. On the other hand, it is less likely that repeated detection of a substance at or near the limit of detection at a specific location is solely due to an artifact in the measurement system, and more likely represents a true positive. The average of such data however, is still only an estimate of the amount of substance present subject to the possible biases of the method used.

LABORATORY RESULTS, REMARK DESCRIPTIONS

.	No Sample Taken
BDL	Below Minimum Measurable Amount
<T	Greater Than Detection Limit But Not Confident (SEE INTERPRETATION OF RESULTS ABOVE)
>	Results Are Greater Than The Upper Limit
<=>	Approximate Result
!CS	No Data: Contamination Suspected
!IL	No Data: Sample Incorrectly Labelled
!IS	No Data: Insufficient Sample
!IV	No Data: Inverted Septum
!LA	No Data: Laboratory Accident
!LD	No Data: Test Queued After Sample Discarded

!LA	No Data: Laboratory Accident
!LD	No Data: Test Queued After Sample Discarded
!NA	No Data: No Authorization To Perform Reanalysis
!NP	No Data: No Procedure
!NR	No Data: Sample Not Received
!OP	No Data: Obscured Plate
!QU	No Data: Quality Control Unacceptable
!PE	No Data: Procedural Error - Sample Discarded
!PH	No Data: Sample pH Outside Valid Range
!RE	No Data: Received Empty
!RO	No Data: See Attached Report (no numeric results)
!SM	No Data: Sample Missing
!SS	No Data: Send Separate Sample Properly Preserved
!UI	No Data: Indeterminant Interference
!TX	No Data: Time Expired
A3C	Approximate, Total Count Exceeded 300 Colonies
APL	Additional Peak, Large, Not Priority Pollutant
APS	Additional Peak, Less Than, Not Priority Pollutant
CIC	Possible Contamination, Improper Cap
CRO	Calculated Result Only
PPS	Test Performed On Preserved Sample
RMP	P and M-Xylene Not Separated
RRV	Rerun Verification
RVU	Reported Value Unusual
SPS	Several Peaks, Small, Not Priority Pollutant
UCR	Unreliable: Could Not Confirm By Reanalysis
UCS	Unreliable: Contamination Suspected
UIN	Unreliable: Indeterminant Interference
XP	Positive After X Number of Hours
T# (T06)	Result Taken After # Hours

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM WALLACEBURG WTP 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
BACTERIOLOGICAL						
FECAL COLIFORM MF (CT/100ML)			**DET'N LIMIT = 0**		**GUIDELINE = 0 (A1)**	
JAN	128	.	.	.	.	.
FEB	12 T24	.	.	.	.	.
MAR	BDL	.	.	.	.	.
APR	BDL	.	.	.	.	.
MAY	BDL	.	.	.	.	.
JUN	3	.	.	.	.	.
JUL	24	.	.	.	.	.
AUG	12	.	.	.	.	.
SEP	17	.	.	.	.	.
OCT	15	.	.	.	.	.
NOV	107	.	.	.	.	.
DEC	132	.	.	.	.	.
STANDRD PLATE CNT MF ( )			**DET'N LIMIT = 0**		**GUIDELINE = 500/ML (A1)**	
JAN	.	5 <=>	.	7 <=>	.	3 <=>
FEB	.	1 <=>	.	2 <=>	.	.
	.	1 <=>	.	.	.	.
MAR	.	119 T48	.	0 <=>	.	0 <=>
APR	.	1 <=>	.	1 <=>	.	2 <=>
MAY	.	1 <=>	.	14	.	27
JUN	.	0 <=>	.	1 <=>	.	1 <=>
JUL	.	0 <=>	.	0 <=>	.	12
AUG	.	.	.	0 <=>	.	20
SEP	.	2 <=>	.	3 <=>	.	0 <=>
OCT	.	1 <=>	.	1 <=>	.	0 <=>
NOV	.	1 <=>	.	.	.	1 <=>
DEC	.	10	.	1 <=>	.	0 <=>
TOTAL COLIFORM MF (CT/100ML)			**DET'N LIMIT = 0**		**GUIDELINE = 5/100ML(A1)**	
JAN	5400 A3C	1 T48	.	0 T24	.	0 T24
FEB	1300 A3C	0 T24	.	0 T24	.	.
	.	0 T48	.	.	.	.
MAR	510 T48	0 T48	.	0 T24	.	0 T24
APR	140 T48	0 T48	.	0 T24	.	0 T24
MAY	300	0	.	0	.	0
JUN	200 <=>	0	.	0	.	0
JUL	270 A3C	0	.	0	.	0
AUG	200 <=>	.	.	0	.	0
SEP	1400 A3C	0	.	0	.	0
OCT	880 A3C	0	.	0	.	0
NOV	2500	0	.	.	.	0
DEC	1900	0	.	0	.	0
T COLIFORM BCKGRD MF (CT/100ML)			**DET'N LIMIT = 0**		**GUIDELINE = N/A**	
JAN	40000 >	1 T48	.	0 T24	.	0 T24

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM WALLACEBURG WTP 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
FEB	65000 A3C	0 T24	.	0 T24	.	.
	.	0 T48	.	.	.	.
MAR	1900 T48	0 T48	.	0 T24	.	0 T24
APR	430 T48	0 T48	.	0 T24	.	0 T24
MAY	2600	0	.	0	.	0
JUN	10000 A3C	0	.	0	.	0
JUL	4700 A3C	0	.	0	.	0
AUG	10000 A3C	.	.	0	.	0
SEP	59000 A3C	0	.	0	.	0
OCT	20000 A3C	0	.	0	.	0
NOV	8100	0	.	.	.	0
DEC	14000	0	.	0	.	0

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM WALLACEBURG WTP 1989

	WATER TREATMENT PLANT				DISTRIBUTION SYSTEM	
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
CHEMISTRY (FLD)						
FLD CHLORINE (COMB) ( )			DET'N LIMIT = N/A		GUIDELINE = N/A	
JAN	.	.100	.050	.050	.100	.150
FEB	.	.100	.100	.050	.	.
	.	.100	.	.	.	.
MAR	.	.200	.100	.100	.200	.150
APR	.	.100	.150	.100	.050	.100
MAY	.	.200	.050	.050	.050	.050
JUN	.	.100	.100	.100	.000	.100
JUL	.000	.160	.500	.050	.050	.050
AUG	.000	.200	.050	.100	.050	.050
SEP	.	.100	.100	.050	.050	.050
OCT	.	.100	.000	.300	.100	.100
NOV	.	.200	.050	.050	.050	.050
DEC	.	.100	.050	.100	.050	.100
FLD CHLORINE FREE ( )			DET'N LIMIT = N/A		GUIDELINE = N/A	
JAN	.	1.000	.200	.300	.150	.500
FEB	.	1.000	.300	.350	.	.
	.	1.000	.	.	.	.
MAR	.	1.000	.200	.300	.100	.500
APR	.	1.000	.100	.300	.250	.200
MAY	.	.900	.150	.300	.100	.400
JUN	.	1.000	.100	.200	.000	.300
JUL	.000	.940	.100	.150	.100	.250
AUG	.000	.900	.200	.300	.150	.200
SEP	.	1.100	.100	.200	.050	.200
OCT	.	1.000	.100	.300	.100	.200
NOV	.	.900	.050	.200	.100	.300
DEC	.	1.100	.100	.300	.050	.300
FLD CHLORINE (TOTAL) ( )			DET'N LIMIT = N/A		GUIDELINE = N/A	
JAN	.	1.100	.250	.350	.250	.650
FEB	.	1.100	.400	.400	.	.
	.	1.100	.	.	.	.
MAR	.	1.200	.300	.400	.300	.650
APR	.	1.100	.250	.400	.300	.300
MAY	.	1.100	.200	.350	.150	.450
JUN	.	1.100	.200	.300	.000	.400
JUL	.000	1.100	.150	.200	.150	.300
AUG	.000	1.100	.250	.400	.200	.250
SEP	.	1.200	.200	.250	.100	.250
OCT	.	1.100	.100	.600	.200	.300
NOV	.	1.100	.100	.250	.150	.350
DEC	.	1.200	.150	.400	.150	.400
FLD PH (DIMNSLESS)			DET'N LIMIT = N/A		GUIDELINE = 6.5-8.5(A4)	
JAN	7.600	7.200	7.000	7.200	7.200	7.000

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM WALLACEBURG WTP 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
FEB	7.800	7.200	7.000	7.200	.	.
	7.500	7.100	.	.	.	.
MAR	7.500	7.000	7.000	7.200	7.000	7.200
APR	7.500	7.000	7.200	7.000	7.200	7.300
MAY	7.600	7.200	7.300	7.300	7.300	7.200
JUN	7.800	7.200	7.400	7.400	7.400	7.200
JUL	8.200	7.200	7.400	7.400	7.300	7.200
AUG	8.000	7.200	7.400	7.400	7.300	7.400
SEP	7.900	7.200	7.300	7.400	7.200	7.300
OCT	7.900	7.300	7.500	7.400	7.400	7.300
NOV	7.800	7.200	7.300	7.200	7.400	7.300
DEC	7.800	7.100	7.000	7.200	7.000	7.200
FLD TEMPERATURE (DEG.C)			DET'N LIMIT = N/A		GUIDELINE = 15 (A1)	
JAN	.300	.200	7.000	7.000	9.000	7.000
FEB	2.000	3.000	6.000	5.000	.	.
	.	1.000	.	.	.	.
MAR	3.000	3.000	10.000	5.000	8.000	5.000
APR	3.500	5.000	10.000	8.000	17.000	9.000
MAY	9.000	9.000	10.000	11.000	14.000	12.000
JUN	14.000	15.000	18.000	17.000	19.000	18.000
JUL	21.000	21.000	20.000	21.000	21.000	20.000
AUG	24.000	23.000	21.000	23.000	23.000	22.000
SEP	20.000	21.000	19.000	22.000	22.000	21.000
OCT	14.000	15.000	17.000	17.000	20.000	19.000
NOV	11.000	11.000	15.000	14.000	18.000	16.000
DEC	5.000	6.000	9.000	8.000	14.000	10.000
FLD TURBIDITY (FTU)			DET'N LIMIT = N/A		GUIDELINE = 1.0 (A1)	
JAN	5.000	.150	1.100	.850	.600	.230
FEB	1.200	.160	.800	.650	.	.
	3.200	.220	.	.	.	.
MAR	2.400	.150	.900	.640	.870	.380
APR	2.100	.100	.750	.600	.750	.450
MAY	3.100	.150	.800	.300	.360	.480
JUN	5.500	.140	.650	.500	.400	.700
JUL	4.800	.150	.800	.400	.850	.600
AUG	4.000	.150	.750	.750	.800	.680
SEP	5.500	.170	.600	.800	.950	.600
OCT	6.500	.120	.920	.560	.500	.240
NOV	4.000	.130	1.000	1.000	1.200	1.200
DEC	2.300	.120	1.400	.900	.800	.700

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM WALLACEBURG WTP 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
CHEMISTRY (LAB)						
ALKALINITY (MG/L)			DET'N LIMIT = .200		GUIDELINE = 30-500 (A4)	
JAN	87.700	73.800	73.400	74.300	74.900	74.900
FEB	87.600	74.700	74.300	74.300	.	.
	86.700	74.400	.	.	.	.
MAR	84.900	70.800	71.900	71.800	72.600	72.400
APR	82.900	70.700	70.900	71.000	71.600	71.900
MAY	86.200	74.600	74.800	75.600	74.400	75.200
JUN	83.500	71.100	72.400	72.000	72.100	71.900
JUL	85.700	72.600	74.700	74.600	75.000	74.800
AUG	86.000	72.200	73.400	72.600	74.600	74.100
SEP	84.800	73.000	73.900	74.300	74.900	74.800
OCT	85.400	73.500	75.000	73.500	74.200	73.600
NOV	87.500	75.000	75.700	74.600	76.600	75.900
DEC	85.000	72.800	74.100	73.000	74.700	73.900
CALCIUM (MG/L)			DET'N LIMIT = .100		GUIDELINE = 100 (F2)	
JAN	30.200	29.400	29.800	30.200	30.800	29.600
FEB	30.600	29.600	31.000	31.000	.	.
	29.000	29.000	.	.	.	.
MAR	29.600	30.200	29.800	30.000	29.600	29.600
APR	27.400	28.200	27.800	27.800	28.200	28.400
MAY	27.800	28.800	28.600	29.000	28.000	28.200
JUN	29.000	28.800	29.400	29.800	29.600	28.600
JUL	29.000	29.400	30.600	30.200	29.800	30.200
AUG	30.000	29.200	29.800	29.800	30.800	30.800
SEP	28.000	28.800	28.000	28.600	28.800	29.200
OCT	29.800	31.300	31.600	31.100	31.700	31.600
NOV	29.800	30.200	29.000	28.300	30.600	30.800
DEC	29.300	28.500	31.100	30.600	29.900	30.300
CHLORIDE (MG/L)			DET'N LIMIT = .200		GUIDELINE = 250 (A3)	
JAN	12.200	13.200	13.600	13.200	13.400	12.800
FEB	10.700	12.600	12.600	12.400	.	.
	9.000	10.700	.	.	.	.
MAR	10.100	11.600	12.300	11.800	11.700	11.600
APR	10.800	12.200	12.500	12.400	12.500	12.300
MAY	10.600	11.900	11.900	12.100	12.000	12.000
JUN	9.700	11.100	11.500	11.200	11.400	11.100
JUL	7.300	10.200	10.600	10.400	10.300	10.400
AUG	8.800	10.400	10.800	10.400	10.700	10.400
SEP	9.100	11.100	11.400	11.200	11.400	11.100
OCT	9.600	11.600	12.700	12.200	12.600	12.200
NOV	10.100	11.800	12.200	11.800	11.800	12.000
DEC	7.600	9.700	12.700	10.400	10.500	10.200
COLOUR (HZU)			DET'N LIMIT = .5		GUIDELINE = 5.0 (A3)	
JAN	.500 <T	.500 <T	3.500	3.000	2.000 <T	1.000 <T

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM WALLACEBURG WTP 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
FEB	.500 <T	BDL	3.000	2.500		
	1.000 <T	.500 <T	.	.	.	.
MAR	1.500 <T	1.000 <T	4.000	3.500	2.500	1.000 <T
APR	1.000 <T	.500 <T	2.000 <T	2.000 <T	1.000 <T	2.500
MAY	1.000 <T	.500 <T	1.500 <T	2.000 <T	1.500 <T	.500 <T
JUN	1.000 <T	1.000 <T	1.000 <T	1.500 <T	.500 <T	1.500 <T
JUL	1.500 <T	1.000 <T	3.000	3.000	1.500 <T	1.500 <T
AUG	1.000 <T	BDL	2.500	2.000 <T	1.500 <T	1.500 <T
SEP	1.000 <T	BDL	3.000	2.500	2.500	2.500
OCT	.500 <T	BDL	3.500	1.500 <T	.500 <T	1.000 <T
NOV	1.000 <T	.500 <T	1.500 <T	1.000 <T	7.000	1.000 <T
DEC	1.000 <T	BDL	5.000	3.000	2.000 <T	1.000 <T
CONDUCTIVITY (UMHO/CM)			DET'N LIMIT = 1		GUIDELINE = 400 (F2)	
JAN	247	248	247	249	248	248
FEB	239	246	249	243	.	.
	234	242	.	.	.	.
MAR	238	242	245	243	245	245
APR	238	246	248	246	247	247
MAY	234	238	239	243	239	241
JUN	231	238	242	238	239	238
JUL	225	237	242	239	239	239
AUG	228	231	239	234	236	235
SEP	229	239	245	240	242	240
OCT	232	242	252	243	248	244
NOV	238	243	243	241	243	246
DEC	222	232	243	234	236	235
FLUORIDE (MG/L)			DET'N LIMIT = .01		GUIDELINE = 2.400 (A1)	
JAN	.080	1.020	.880	.980	.900	.980
FEB	.100	.920	.900	.940	.	.
	.080	.700	.	.	.	.
MAR	BDL	1.100	1.020	1.140	1.140	1.060
APR	.100	1.060	.980	1.040	.920	.960
MAY	.080	.080	.240	.400	.400	.320
JUN	.080	1.160	1.100	1.140	1.100	1.120
JUL	.080	1.200	1.020	1.140	1.060	1.100
AUG	.080	1.200	1.180	1.320	1.180	1.220
SEP	.080	1.040	1.000	1.000	.960	.980
OCT	.080	1.080	1.080	.980	1.000	1.000
NOV	.100	1.160	.900	.980	.920	.960
DEC	BDL	1.260	.920	1.140	.920	1.180
HARDNESS (MG/L)			DET'N LIMIT = .500		GUIDELINE = 80-100 (A4)	
JAN	108.000	105.000	105.000	107.000	110.000	105.000
FEB	108.000	105.000	109.000	110.000	.	.
	106.000	105.000	.	.	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM WALLACEBURG WTP 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
MAR	106.000	108.000	107.000	107.000	107.000	106.000
APR	99.000	101.000	100.000	99.000	100.000	101.000
MAY	99.000	102.000	101.000	102.000	99.000	100.000
JUN	106.000	104.000	106.000	107.000	107.000	103.000
JUL	102.000	104.000	106.000	106.000	104.000	105.000
AUG	106.000	106.000	105.000	106.000	107.000	108.000
SEP	101.000	103.000	101.000	103.000	103.000	104.000
OCT	106.100	109.400	109.600	108.100	110.600	110.100
NOV	107.000	107.000	103.700	102.300	107.000	109.000
DEC	104.500	102.800	108.600	107.900	106.200	107.200
IONCAL (DMNSLESS)			DET'N LIMIT = N/A		GUIDELINE = N/A	
JAN	2.921	1.569	1.054	2.908	1.267	.557
FEB	1.254	1.231	4.670	5.800	.	.
	3.553	3.534	.	.	.	.
MAR	2.141	6.657	5.579	5.237	4.314	4.539
APR	1.117	.353	.820	1.426	.962	.563
MAY	3.951	.289	.734	.950	1.152	1.769
JUN	4.276	5.508	4.593	7.414	6.809	3.215
JUL	.460	3.441	3.391	3.279	1.631	2.210
AUG	2.859	4.109	4.515	5.161	5.897	6.296
SEP	2.987	.831	4.657	2.037	2.324	.088
OCT	3.315	5.844	4.791	4.938	5.112	6.031
NOV	.380	3.034	2.124	3.131	3.122	3.734
DEC	4.279	4.528	2.518	.776	2.793	2.284
LANGELIERS INDEX (DMNSLESS)			DET'N LIMIT = N/A		GUIDELINE = N/A	
JAN	.105	-.212	-.168	-.178	-.006	-.173
FEB	.203	-.163	-.227	-.304	.	.
	.207	-.142	.	.	.	.
MAR	.165	-.366	-.177	-.193	-.145	-.156
APR	.141	.012	-.034	-.073	.027	.052
MAY	.206	.117	.105	.094	.133	.120
JUN	.082	-.124	-.068	-.053	-.076	-.092
JUL	.046	-.425	.073	.028	.044	.029
AUG	.241	-.088	.025	-.008	.087	.065
SEP	.274	.078	.028	.082	.087	.094
OCT	.243	-.115	.064	-.018	.053	-.011
NOV	.241	-.132	-.105	-.181	.043	-.139
DEC	.298	-.055	-.004	-.044	.055	.016
MAGNESIUM (MG/L)			DET'N LIMIT = .050		GUIDELINE = 30 (F2)	
JAN	7.900	7.700	7.500	7.700	7.900	7.600
FEB	7.600	7.500	7.700	7.900	.	.
	8.100	8.000	.	.	.	.
MAR	7.900	7.900	8.000	7.800	7.900	7.900
APR	7.400	7.500	7.400	7.300	7.300	7.400

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM WALLACEBURG WTP 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
MAY	7.100	7.200	7.200	7.300	7.200	7.200
JUN	8.100	7.900	7.800	8.000	8.000	7.700
JUL	7.300	7.400	7.400	7.300	7.200	7.200
AUG	7.600	7.900	7.500	7.600	7.500	7.500
SEP	7.600	7.600	7.500	7.600	7.500	7.600
OCT	7.700	7.550	7.450	7.400	7.600	7.600
NOV	7.800	7.600	7.600	7.700	7.500	7.700
DEC	7.650	7.650	7.550	7.650	7.650	7.650
SODIUM (MG/L)			DET'N LIMIT = .200		GUIDELINE = 200 (C3)	
JAN	6.800	6.800	7.600	7.200	7.400	7.600
FEB	6.600	6.800	7.000	7.000	.	.
	6.400	6.400	.	.	.	.
MAR	6.400	6.800	7.200	6.800	7.000	7.000
APR	6.400	6.600	6.800	6.600	6.800	7.000
MAY	6.600	6.800	6.600	7.000	6.800	6.800
JUN	6.400	6.600	6.400	6.400	6.600	6.200
JUL	5.000	6.000	6.200	6.200	6.200	6.000
AUG	6.000	5.800	6.200	5.600	6.000	6.000
SEP	5.400	5.600	5.400	5.400	5.600	5.800
OCT	6.700	7.100	7.600	7.300	7.400	7.200
NOV	6.200	6.400	6.200	5.800	6.600	6.600
DEC	2.200	2.600	3.700	2.600	2.900	2.600
AMMONIUM TOTAL (MG/L)			DET'N LIMIT = 0.002		GUIDELINE = .05 (F2)	
JAN	.030	.016	.074	.014	.016	.016
FEB	.008 <T	BDL	.112	.002 <T	.	.
	.010	.002 <T	.	.	.	.
MAR	.008 <T	.002	.072	.002	.002	.002
APR	.028	BDL	.114	.002 <T	.012	BDL
MAY	.010	BDL	BDL	.176	.006 <T	BDL
JUN	.004 <T	BDL	.282	.004 <T	.002 <T	.004 <T
JUL	.006 <T	BDL	.130	.002 <T	.002 <T	BDL
AUG	.008 <T	BDL	.366	.002 <T	.008 <T	.010
SEP	.002 <T	BDL	.252	BDL	.008 <T	BDL
OCT	.010	BDL	.292	BDL	.044	BDL
NOV	.010	.018	.004 <T	BDL	.004 <T	BDL
DEC	.030	BDL	.002 <T	BDL	BDL	BDL
NITRITE (MG/L)			DET'N LIMIT = 0.001		GUIDELINE = 1.000 (A1)	
JAN	.004 <T	BDL	.001 <T	BDL	BDL	BDL
FEB	.002 <T	BDL	.003 <T	.003 <T	.	.
	.003 <T	BDL	.	.	.	.
MAR	.002 <T	.001	.001 <T	.001	.001	.001
APR	.003 <T	BDL	.001 <T	BDL	.001 <T	.001 <T
MAY	.005	BDL	.001 <T	.003 <T	.003 <T	.001 <T
JUN	.007	.002 <T	.004 <T	.004 <T	.003 <T	.004 <T

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM WALLACEBURG WTP 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
JUL	.005	BDL	.002 <T	.001 <T	.001 <T	.001 <T
AUG	.005	.003 <T	.002 <T	.001 <T	.002 <T	.002 <T
SEP	.009	.001 <T	.001 <T	.001 <T	.001 <T	BDL
OCT	.004 <T	BDL	.003 <T	.001 <T	.001 <T	BDL
NOV	.004 <T	.001 <T	.005	.003 <T	.001 <T	BDL
DEC	.003 <T	BDL	.002 <T	.001 <T	.001 <T	.001 <T
TOTAL NITRATES (MG/L)			DET'N LIMIT = .020		GUIDELINE = 10.000 (A1)	
JAN	.475	.410	.540	.400	.395	.405
FEB	.390	.345	.500	.350	.	.
	.320	.335	.	.	.	.
MAR	.345	.345	.390	.335	.340	.345
APR	.485	.420	.545	.405	.435	.400
MAY	.130	.130	.125	.220	.120	.120
JUN	.545	.365	.710	.330	.320	.325
JUL	.160	.170	.610	.280	.280	.275
AUG	.290	.245	.745	.285	.275	.285
SEP	.335	.400	.680	.370	.370	.365
OCT	.290	.310	.665	.295	.360	.290
NOV	.385	.350	.295	.315	.305	.315
DEC	.290	.285	.420	.280	.265	.265
NITROGEN TOT KJELD (MG/L)			DET'N LIMIT = .020		GUIDELINE = N/A	
JAN	.220	.100	.250	.110	.090 <T	.080 <T
FEB	.190	.090 <T	.300	.100	.	.
	.200	.090 <T	.	.	.	.
MAR	.170	.100	.330	.120	.120	.110
APR	.210	.080 <T	.230	.080 <T	.170	.110
MAY	.220	.090 <T	.110	.310	.320	.100
JUN	.190	.100	.430	.080 <T	.090 <T	.090 <T
JUL	.200	.090 <T	.390	.120	.100	.090 <T
AUG	.190	.120	.540	.090 <T	.090 <T	.090 <T
SEP	.200	.110	.430	.110	.150	.100
OCT	.240	.110	.750	.110	.350	.130
NOV	.170	.090 <T	.160	.100	.100	.100
DEC	.190	.120	.220	.100	.110	.110
PH (DIMENSLESS)			DET'N LIMIT = N/A		GUIDELINE = 6.5-8.5(A4)	
JAN	8.100	7.870	7.910	7.890	8.050	7.900
FEB	8.190	7.910	7.830	7.750	.	.
	8.220	7.940	.	.	.	.
MAR	8.180	7.720	7.910	7.890	7.940	7.930
APR	8.200	8.130	8.090	8.050	8.140	8.160
MAY	8.240	8.200	8.190	8.170	8.230	8.210
JUN	8.110	7.980	8.020	8.030	8.010	8.010
JUL	8.060	7.660	8.130	8.090	8.110	8.090
AUG	8.240	8.000	8.100	8.070	8.140	8.120

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM WALLACEBURG WTP 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
SEP	8.310	8.170	8.130	8.170	8.170	8.170
OCT	8.250	7.940	8.110	8.040	8.100	8.040
NOV	8.240	7.930	7.970	7.910	8.090	7.910
DEC	8.310	8.040	8.050	8.020	8.120	8.080
PHOSPHORUS FIL REACT (MG/L)			DET'N LIMIT = .0005		GUIDELINE = N/A	
JAN	.002	.001 <T	.	.	.	.
FEB	.000 <T	BDL	.	.	.	.
	.000 <T	BDL	.	.	.	.
MAR	.002	.000	.	.	.	.
APR	.001 <T	BDL	.	.	.	.
MAY	.000	.000	.	.	.	.
JUN	.001 <T	BDL	.	.	.	.
JUL	BDL	BDL	.	.	.	.
AUG	.001 <T	.001 <T	.	.	.	.
SEP	.001 <T	BDL	.	.	.	.
OCT	BDL	BDL	.	.	.	.
NOV	.001 <T	.001 <T	.	.	.	.
DEC	.001 <T	.000 <T	.	.	.	.
PHOSPHORUS TOTAL (MG/L)			DET'N LIMIT = .002		GUIDELINE = .40 (F2)	
JAN	.019	.004 <T	.	.	.	.
FEB	.003 <T	BDL	.	.	.	.
	.011	.003 <T	.	.	.	.
MAR	.006 <T	BDL	.	.	.	.
APR	.005 <T	BDL	.	.	.	.
MAY	.005 <T	BDL	.	.	.	.
JUN	.014	.002 <T	.	.	.	.
JUL	.009 <T	BDL	.	.	.	.
AUG	.008 <T	BDL	.	.	.	.
SEP	.010	.002 <T	.	.	.	.
OCT	.006 <T	BDL	.	.	.	.
NOV	.015	.002 <T	.	.	.	.
DEC	.003 <T	BDL	.	.	.	.
SULPHATE (MG/L)			DET'N LIMIT = .200		GUIDELINE = 500. (A3)	
JAN	18.970	26.810	27.670	30.730	27.600	26.910
FEB	15.760	23.410	24.270	24.230	.	.
	14.400	23.500	.	.	.	.
MAR	16.720	25.590	25.030	25.040	25.230	25.300
APR	13.660	24.740	24.470	24.450	24.540	24.200
MAY	15.180	23.770	23.190	22.740	22.900	23.280
JUN	14.980	23.510	23.000	22.930	23.150	23.250
JUL	15.580	24.410	23.970	23.860	24.070	24.040
AUG	15.780	24.580	22.600	22.810	22.460	22.910
SEP	16.710	25.140	25.200	24.280	24.290	23.890
OCT	16.120	25.720	24.950	25.300	26.130	25.730

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM WALLACEBURG WTP 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
NOV	16.610	23.230	24.660	25.130	22.640	23.570
DEC	16.690	24.640	25.120	24.690	24.080	25.050
TURBIDITY (FTU)			DET'N LIMIT = .02		GUIDELINE = 1.00 (A1)	
JAN	8.800	.260	.940	.960	.760	.570
FEB	1.670	.340	.630	.710	.	.
	5.100	.250	.	.	.	.
MAR	1.720	.300	.950	.490	.400	.200 <T
APR	2.200	.470	.810	.440	.320	.490
MAY	4.700	.890	.850	.850	.820	.770
JUN	4.000	.580	.860	.700	.650	.440
JUL	5.300	.540	.810	.510	.460	.540
AUG	3.100	.360	.820	.470	.770	.570
SEP	7.400	.410	.810	.800	.280	.310
OCT	1.760	.140 <T	.530	.310	.530	.200 <T
NOV	2.800	.400	.470	.350	.600	.440
DEC	2.300	.450	1.050 RRV	.610	.400	.370

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM WALLACEBURG WTP 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
METALS						
SILVER (UG/L)				DET'N LIMIT = .020	GUIDELINE = 50. (A1)	
JAN	BDL	.040 <T	.030 <T	BDL	BDL	BDL
FEB	.090 <T	.320 <T	.120 <T	.080 <T	.	.
	.040 <T	1.000	.	.	.	.
MAR	.040 <T	.240 <T	.070 <T	.050 <T	BDL	.120 <T
APR	.110 <T	.140 <T	.120 <T	.040 <T	.040 <T	.080 <T
MAY	BDL	.040 <T	BDL	BDL	BDL	BDL
JUN	BDL	.030 <T	BDL	BDL	BDL	BDL
JUL	BDL	BDL	.080 <T	BDL	BDL	BDL
AUG	BDL	ISN	.030 <T	BDL	BDL	BDL
SEP	BDL	.030 <T	.120 <T	.090 <T	.050 <T	.030 <T
OCT	BDL	BDL	.050 <T	BDL	BDL	BDL
NOV	BDL	BDL	BDL	BDL	BDL	BDL
DEC	BDL	BDL	BDL	BDL	BDL	BDL
ALUMINUM (UG/L)				DET'N LIMIT = .050	GUIDELINE = 100.(A4)	
JAN	90.480	24.360	26.680	22.040	18.560	20.880
FEB	16.240	26.680	25.520	22.040	.	.
	35.960	32.480	.	.	.	.
MAR	32.480	27.840	25.520	23.200	22.040	20.880
APR	33.640	30.160	22.040	15.080	13.920	20.880
MAY	63.800	33.640	31.320	29.000	25.520	29.000
JUN	60.000	58.000	41.000	44.000	35.000	45.000
JUL	61.000	100.000	64.000	74.000	52.000	63.000
AUG	52.000	ISN	75.000	96.000	62.000	67.000
SEP	62.000	98.000	73.000	81.000	70.000	64.000
OCT	56.000	46.000	57.000	44.000	35.000	38.000
NOV	30.000	43.000	38.000	38.000	31.000	27.000
DEC	35.000	39.000	40.000	25.000	20.000	18.000
ARSENIC (UG/L)				DET'N LIMIT = 0.050	GUIDELINE = 50.0 (A1)	
JAN	.630 <T	.380 <T	.340 <T	.330 <T	.290 <T	.200 <T
FEB	.500 <T	.170 <T	.230 <T	.120 <T	.	.
	.910 <T	.700 <T	.	.	.	.
MAR	1.200	1.100	.710 <T	.880 <T	.550 <T	.870 <T
APR	.820 <T	.740 <T	.830 <T	.830 <T	.630 <T	.640 <T
MAY	1.100	.660 <T	.700 <T	.680 <T	.820 <T	.690 <T
JUN	1.400	1.600	.760 <T	1.000 <T	.930 <T	1.000 <T
JUL	1.700	1.400	1.300	.890 <T	.960 <T	.590 <T
AUG	1.100	ISN	.970 <T	.960 <T	.720 <T	.930 <T
SEP	.940 <T	.960 <T	.830 <T	.850 <T	.700 <T	.640 <T
OCT	.800 <T	.500 <T	.490 <T	.450 <T	.410 <T	.300 <T
NOV	.630 <T	.390 <T	.490 <T	.460 <T	.420 <T	.410 <T
DEC	.420 <T	.520 <T	.660 <T	.330 <T	.180 <T	.330 <T
BARIUM (UG/L)				DET'N LIMIT = 0.020	GUIDELINE = 1000. (A1)	
JAN	16.000	15.000	15.000	15.000	15.000	15.000

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM WALLACEBURG WTP 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
FEB	15.000	15.000	15.000	15.000	.	.
	15.000	15.000	.	.	.	.
MAR	15.000	15.000	16.000	16.000	16.000	16.000
APR	14.000	15.000	16.000	15.000	16.000	15.000
MAY	15.000	16.000	16.000	16.000	16.000	16.000
JUN	15.000	15.000	16.000	16.000	16.000	16.000
JUL	15.000	17.000	18.000	18.000	18.000	19.000
AUG	16.000	ISM	16.000	16.000	18.000	17.000
SEP	15.000	16.000	16.000	17.000	17.000	16.000
OCT	15.000	15.000	15.000	16.000	16.000	16.000
NOV	16.000	16.000	15.000	16.000	15.000	16.000
DEC	15.000	16.000	14.000	15.000	15.000	15.000
BORON (UG/L)				DET'N LIMIT = 0.200 GUIDELINE = 5000. (A1)		
JAN	36.000	34.000	46.000	34.000	37.000	42.000
FEB	45.000	20.000 <T	62.000	47.000	.	.
	41.000	59.000	.	.	.	.
MAR	47.000	46.000	66.000	56.000	53.000	45.000
APR	93.000	59.000	150.000	100.000	69.000	35.000
MAY	120.000	140.000	160.000	120.000	82.000	26.000
JUN	29.000	29.000	40.000	26.000	27.000	27.000
JUL	41.000	41.000	45.000	26.000	40.000	28.000
AUG	36.000	ISM	52.000	39.000	34.000	37.000
SEP	30.000	33.000	46.000	25.000	40.000	30.000
OCT	22.000	16.000 <T	19.000 <T	17.000 <T	16.000 <T	15.000 <T
NOV	14.000 <T	16.000 <T	29.000	16.000 <T	25.000	20.000 <T
DEC	11.000 <T	12.000 <T	15.000 <T	13.000 <T	13.000 <T	14.000 <T
BERYLLIUM (UG/L)				DET'N LIMIT = 0.010 GUIDELINE = N/A		
JAN	.060 <T	.040 <T	.040 <T	BDL	.040 <T	.050 <T
FEB	.080 <T	.060 <T	.050 <T	.130 <T	.	.
	.040 <T	.100 <T	.	.	.	.
MAR	.130 <T	.050 <T	BDL	.060 <T	.030 <T	.040 <T
APR	.090 <T	.100 <T	.290 <T	.220 <T	.140 <T	.020 <T
MAY	.270 <T	.280 <T	.190 <T	BDL	.190 <T	.130 <T
JUN	BDL	.030 <T	.050 <T	BDL	.090 <T	BDL
JUL	.020 <T	BDL	BDL	BDL	.030 <T	.060 <T
AUG	.140 <T	ISM	.070 <T	.040 <T	.100 <T	.030 <T
SEP	BDL	BDL	.020 <T	BDL	BDL	BDL
OCT	.020 <T	BDL	BDL	BDL	BDL	BDL
NOV	BDL	BDL	BDL	BDL	.020 <T	BDL
DEC	BDL	BDL	BDL	BDL	BDL	BDL
CADMIUM (UG/L)				DET'N LIMIT = 0.050 GUIDELINE = 5.000 (A1)		
JAN	BDL	BDL	BDL	BDL	BDL	BDL
FEB	BDL	BDL	.100 <T	BDL	.	.
	.070 <T	.070 <T	.	.	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM WALLACEBURG WTP 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
MAR	.070 <T	BDL	.170 <T	.120 <T	.140 <T	.080 <T
APR	.080 <T	BDL	BDL	BDL	BDL	BDL
MAY	.070 <T	BDL	BDL	BDL	BDL	BDL
JUN	.120 <T	BDL	.100 <T	BDL	BDL	BDL
JUL	BDL	BDL	.150 <T	BDL	.110 <T	BDL
AUG	BDL	ISN	.200 <T	BDL	BDL	BDL
SEP	BDL	BDL	BDL	BDL	BDL	BDL
OCT	BDL	BDL	BDL	BDL	BDL	BDL
NOV	BDL	BDL	BDL	BDL	BDL	BDL
DEC	BDL	BDL	.190 <T	BDL	BDL	BDL
COBALT (UG/L)			DET'N LIMIT = 0.020 GUIDELINE = N/A			
JAN	.260 <T	.190 <T	.160 <T	.150 <T	.150 <T	.280 <T
FEB	.210 <T	.190 <T	.180 <T	.140 <T	.	.
	.100 <T	.090 <T	.	.	.	.
MAR	.190 <T	.160 <T	.180 <T	.150 <T	.160 <T	.120 <T
APR	.050 <T	.070 <T	.110 <T	.050 <T	.060 <T	.100 <T
MAY	.170 <T	.280 <T	.220 <T	.150 <T	.180 <T	.140 <T
JUN	.200 <T	.160 <T	.170 <T	.120 <T	.180 <T	.140 <T
JUL	22.000	.270 <T	.200 <T	.250 <T	.200 <T	.240 <T
AUG	.120 <T	ISN	.140 <T	.110 <T	.090 <T	.070 <T
SEP	.200 <T	.100 <T	.130 <T	.180 <T	.170 <T	.120 <T
OCT	.140 <T	.090 <T	.090 <T	.100 <T	.110 <T	.070 <T
NOV	.250 <T	.060 <T	.230 <T	BDL	.110 <T	BDL
DEC	.140 <T	.140 <T	.140 <T	BDL	.110 <T	.320 <T
CHROMIUM (UG/L)			DET'N LIMIT = 0.100 GUIDELINE = 50. (A1)			
JAN	4.300	3.800	4.100	3.700	4.200	4.000
FEB	6.700	.820 <T	3.900	6.700	.	.
	4.600	6.700	.	.	.	.
MAR	5.500	4.600	5.300	5.800	5.500	4.400
APR	3.400	1.800	5.300	3.700	2.500	.920 <T
MAY	5.300	6.000	5.400	5.000	3.300	.770 <T
JUN	4.100	3.700	3.200	2.700	3.100	3.100
JUL	5.000	4.300	3.900	1.700	4.100	3.800
AUG	4.300	ISN	4.100	4.500	3.700	4.200
SEP	2.800	2.800	2.900	1.300	2.600	2.400
OCT	3.400	.160 <T	2.100	.790 <T	BDL	BDL
NOV	BDL	BDL	BDL	BDL	1.800	.580 <T
DEC	BDL	BDL	BDL	BDL	BDL	BDL
COPPER (UG/L)			DET'N LIMIT = .100 GUIDELINE = 1000 (A3)			
JAN	2.200	1.200	93.000	4.800	14.000	7.100
FEB	1.400	1.100	110.000	4.100	.	.
	16.000	.710 <T	.	.	.	.
MAR	2.700	1.000 <T	170.000	5.900	15.000	6.300
APR	3.900	1.300	130.000	6.200	29.000	7.700

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM WALLACEBURG WTP 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1	SITE 2		
			STANDING	FREE FLOW	STANDING	FREE FLOW
MAY	2.600	1.400	98.000	5.600	16.000	7.700
JUN	2.800	1.700	110.000	7.100	36.000	8.500
JUL	6.800	1.800	89.000	5.000	27.000	6.500
AUG	2.600	ISM	96.000	8.800	20.000	5.800
SEP	2.700	1.900	95.000	5.500	31.000	7.700
OCT	2.000	1.300	23.000	7.100	20.000	5.700
NOV	2.300	1.500	9.200	3.600	21.000	5.000
DEC	3.100 <T	1.100 <T	57.000	4.800 <T	25.000	5.000 <T
IRON (UG/L)				DET'N LIMIT = 4.000 GUIDELINE = 300. (A3)		
JAN	110.000	49.000 <T	150.000	130.000	77.000	66.000
FEB	20.000 <T	5.900 <T	100.000	77.000	.	.
	64.000	BDL	.	.	.	.
MAR	34.000 <T	6.800 <T	97.000	75.000	54.000	12.000 <T
APR	28.000 <T	17.000 <T	72.000	41.000 <T	17.000 <T	88.000
MAY	52.000	8.300 <T	83.000	47.000 <T	68.000	24.000 <T
JUN	63.000	10.000 <T	51.000	30.000 <T	25.000 <T	46.000 <T
JUL	84.000	11.000 <T	130.000	130.000	37.000 <T	60.000
AUG	59.000	ISM	84.000	49.000 <T	19.000 <T	31.000 <T
SEP	100.000	15.000 <T	110.000	81.000	130.000	56.000
OCT	120.000	8.300 <T	130.000	60.000	30.000 <T	44.000 <T
NOV	45.000 <T	9.000 <T	90.000	60.000	74.000	33.000 <T
DEC	55.000 <T	9.000 <T	220.000	110.000	67.000	44.000 <T
MERCURY (UG/L)				DET'N LIMIT = 0.010 GUIDELINE = 1.000 (A1)		
JAN	.040 <T	.020 <T	.	BDL	.	BDL
FEB	BDL	BDL	.	.050 <T	.	.
	.040 <T	BDL	.	.	.	.
MAR	.020 <T	.020 <T	.	.020 <T	.	BDL
APR	.030 <T	.040 <T	.	.040 <T	.	BDL
MAY	.020 <T	.030 <T	.	.020 <T	.	BDL
JUN	.040 <T	.040 <T	.	.020 <T	.	.020 <T
JUL	.030 <T	.040 <T	.	.020 <T	.	.030 <T
AUG	.020 <T	BDL	.	.030 <T	.	BDL
SEP	BDL	BDL	.	.040 <T	.	.030 <T
OCT	.020 <T	BDL	.	.040 <T	.	BDL
NOV	.020 <T	BDL	.	BDL	.	IRE
DEC	BDL	.020 <T	.	.020 <T	.	BDL
MANGANESE (UG/L)				DET'N LIMIT = .050 GUIDELINE = 50.0 (A3)		
JAN	4.300	.460 <T	10.000	9.300	8.100	4.300
FEB	1.800	.360 <T	8.900	6.500	.	.
	3.600	.180 <T	.	.	.	.
MAR	1.700	.360 <T	7.900	5.500	5.800	1.900
APR	2.000	.370 <T	5.300	3.800	3.500	11.000
MAY	2.700	.400 <T	8.200	5.200	8.400	3.600
JUN	3.800	.580	5.900	5.500	3.900	7.300

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM WALLACEBURG WTP 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
JUL	22.000	.610	6.500	8.200	5.300	8.500
AUG	3.400	ISM	3.700	4.100	5.900	5.900
SEP	4.400	.640	8.600	17.000	16.000	8.500
OCT	4.500	.430 <T	10.000	5.300	2.400	4.600
NOV	2.500	.310 <T	11.000	7.700	13.000	4.400
DEC	2.400	.320 <T	18.000	10.000	9.200	4.600
MOLYBDENUM (UG/L)			DET'N LIMIT = 0.020 GUIDELINE = N/A			
JAN	.410 <T	.530	.430 <T	.450 <T	.420 <T	.450 <T
FEB	.770	.830	.740	.720	.	.
	.600	.680	.	.	.	.
MAR	.680	.730	.760	.690	.710	.790
APR	.820	.790	.780	.820	.800	.800
MAY	.800	.750	.740	.730	.740	.720
JUN	.840	.800	.780	.790	.820	.880
JUL	1.100	1.000	.980	1.100	1.000	.820
AUG	.660	ISM	.700	.740	.710	.720
SEP	.740	.780	.820	.750	.710	.760
OCT	.520	.600	.430 <T	.480 <T	.460 <T	.480 <T
NOV	.500 <T	.500 <T	.560	.460 <T	.430 <T	.480 <T
DEC	.440 <T	.380 <T	.460 <T	.440 <T	.440 <T	.390 <T
NICKEL (UG/L)			DET'N LIMIT = 0.100 GUIDELINE = 50. (F3)			
JAN	1.200 <T	.890 <T	1.300 <T	.670 <T	1.800 <T	1.500 <T
FEB	.970 <T	.290 <T	1.300 <T	.630 <T	.	.
	.780 <T	.820 <T	.	.	.	.
MAR	1.200 <T	1.100 <T	1.600 <T	.500 <T	1.000 <T	.410 <T
APR	.840 <T	.540 <T	1.400 <T	.420 <T	1.300 <T	.800 <T
MAY	1.400 <T	1.300 <T	1.800 <T	1.400 <T	1.600 <T	1.200 <T
JUN	1.400 <T	1.100 <T	2.100	.680 <T	1.200 <T	.960 <T
JUL	1.800 <T	1.600 <T	5.000	1.400 <T	2.600	BDL
AUG	.820 <T	ISM	2.400	.610 <T	.620 <T	.320 <T
SEP	1.100 <T	1.200 <T	2.000 <T	1.100 <T	1.600 <T	.810 <T
OCT	.770 <T	.750 <T	2.000 <T	.460 <T	.900 <T	.430 <T
NOV	.520 <T	.520 <T	1.900 <T	.510 <T	BDL	BDL
DEC	.750 <T	.810 <T	51.000	.870 <T	1.900 <T	.690 <T
LEAD (UG/L)			DET'N LIMIT = 0.050 GUIDELINE = 50. (A1)			
JAN	.460	.320	3.300	.210	.420	.200 <T
FEB	.710	.130 <T	3.500	.110 <T	.	.
	1.900	.160 <T	.	.	.	.
MAR	.550	.070 <T	2.700	.130 <T	.520	.220
APR	.940	.070 <T	2.000	.060 <T	.700	.080 <T
MAY	.890	.200 <T	3.100	.220	.500	.210
JUN	.850	.400	4.300	.330	.870	.310
JUL	1.200	.440	6.100	.200 <T	1.100	.270
AUG	1.000	ISM	11.000	.620	.770	.450

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM WALLACEBURG WTP 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
SEP	.900	.780	7.400	.440	3.100	.590
OCT	.500	.210	2.800	.420	.860	.280
NOV	.300	.270	.420	.160 <T	.660	.160 <T
DEC	.270 <T	BDL	4.100	.100 <T	.670	.090 <T
ANTIMONY (UG/L)				DET'N LIMIT = .050	GUIDELINE = 146. (D4)	
JAN	.420	.400	.520	.500	.500	.630
FEB	.690	.720	.660	.730	.	.
	.620	.600	.	.	.	.
MAR	.690	.680	.690	.580	.610	.540
APR	.530	.500	.570	.400	.520	.620
MAY	.700	.940	.890	.730	.790	.730
JUN	.700	.930	.980	.930	.950	.890
JUL	39.000	.990	.750	.680	.810	.990
AUG	.880	ISM	1.000	.770	.920	.880
SEP	.500	.490	.580	.600	.610	.520
OCT	.520	.530	.560	.630	.530	.490
NOV	.870	.430	1.100	.440	.650	.480
DEC	.520	.370 <T	.520	.500 <T	.550	.500 <T
SELENIUM (UG/L)				DET'N LIMIT = 0.200	GUIDELINE = 10. (A1)	
JAN	BDL	BDL	BDL	.330 <T	BDL	.580 <T
FEB	.840 <T	2.100 <T	2.300 <T	2.500 <T	.	.
	2.800 <T	4.700 <T	.	.	.	.
MAR	1.700 <T	2.200 <T	1.700 <T	4.100 <T	3.200 <T	2.700 <T
APR	2.700 <T	5.600 <T	4.700 <T	8.900 <T	5.900 <T	6.100 <T
MAY	1.600 <T	1.500 <T	4.300 <T	2.900 <T	2.600 <T	3.100 <T
JUN	BDL	1.400 <T	2.500 <T	3.000 <T	3.100 <T	3.700 <T
JUL	1.800 <T	3.600 <T	3.300 <T	2.900 <T	5.500	3.800 <T
AUG	BDL	ISM	3.100 <T	3.000 <T	3.300 <T	4.600 <T
SEP	1.400 <T	1.800 <T	1.200 <T	1.500 <T	BDL	1.300 <T
OCT	BDL	BDL	1.100 <T	BDL	BDL	BDL
NOV	BDL	BDL	BDL	BDL	BDL	1.200 <T
DEC	BDL	1.100 <T	BDL	1.100 <T	BDL	BDL
STRONTIUM (UG/L)				DET'N LIMIT = .050	GUIDELINE = N/A	
JAN	94.000	93.000	95.000	96.000	99.000	97.000
FEB	110.000	100.000	110.000	110.000	.	.
	100.000	100.000	.	.	.	.
MAR	100.000	100.000	110.000	110.000	110.000	110.000
APR	100.000	100.000	100.000	100.000	110.000	100.000
MAY	100.000	100.000	110.000	100.000	110.000	100.000
JUN	110.000	110.000	110.000	110.000	110.000	110.000
JUL	110.000	110.000	110.000	110.000	120.000	110.000
AUG	110.000	ISM	110.000	110.000	110.000	110.000
SEP	100.000	100.000	110.000	110.000	110.000	100.000
OCT	110.000	100.000	100.000	100.000	110.000	100.000

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM WALLACEBURG WTP 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
NOV	100.000	100.000	100.000	100.000	100.000	100.000
DEC	100.000	110.000	110.000	100.000	100.000	110.000
TITANIUM (UG/L)				DET'N LIMIT = .050	GUIDELINE = N/A	
JAN	4.000	2.900	2.700	2.700	2.700	2.600
FEB	3.300	2.700	2.900	2.800	.	.
	4.800	4.100	.	.	.	.
MAR	4.700	3.100	3.300	3.100	3.000	3.200
APR	6.300	5.400	5.700	5.300	5.500	5.700
MAY	4.500	2.900	3.400	3.100	2.600	3.100
JUN	7.700	6.300	7.100	6.300	7.100	6.500
JUL	7.100	5.200	5.600	5.600	6.000	3.800
AUG	5.600	ISM	3.500	3.100	3.100	3.900
SEP	7.700	7.700	6.800	6.300	7.100	6.600
OCT	4.300	3.700	3.200	3.100	3.200	3.300
NOV	3.900	4.300	4.200	3.500	3.400	3.900
DEC	3.900 <T	3.400 <T	4.200 <T	3.600 <T	4.300 <T	4.200 <T
THALLIUM (UG/L)				DET'N LIMIT = .010	GUIDELINE = 13. (D4)	
JAN	BDL	BDL	BDL	BDL	BDL	BDL
FEB	.020 <T	.090 <T	.090 <T	.080 <T	.	.
	BDL	BDL	.	.	.	.
MAR	BDL	.040 <T	BDL	BDL	BDL	BDL
APR	BDL	BDL	BDL	BDL	BDL	BDL
MAY	.070 <T	BDL	BDL	.020 <T	.030 <T	BDL
JUN	BDL	BDL	BDL	.060 <T	.040 <T	.050 <T
JUL	BDL	BDL	BDL	BDL	BDL	BDL
AUG	.050 <T	ISM	.080 <T	.060 <T	.020 <T	BDL
SEP	BDL	BDL	BDL	BDL	.020 <T	BDL
OCT	.040 <T	BDL	.020 <T	BDL	BDL	BDL
NOV	BDL	BDL	BDL	BDL	.020 <T	BDL
DEC	BDL	BDL	BDL	BDL	BDL	BDL
URANIUM (UG/L)				DET'N LIMIT = .020	GUIDELINE = 100.(B1)	
JAN	.280	.090 <T	.060 <T	.070 <T	.050 <T	.060 <T
FEB	.500	.150 <T	.190 <T	.140 <T	.	.
	.310	.150 <T	.	.	.	.
MAR	.390	.170 <T	.150 <T	.170 <T	.110 <T	.290
APR	.390	.160 <T	.160 <T	.150 <T	.150 <T	.300
MAY	.360	.140 <T	.110 <T	.140 <T	.170 <T	.140 <T
JUN	.400	.130 <T	.080 <T	.190 <T	.100 <T	.110 <T
JUL	.390	.100 <T	.090 <T	.130 <T	.100 <T	.280
AUG	.480	ISM	.110 <T	.080 <T	.090 <T	.270
SEP	.430	.150 <T	.140 <T	.130 <T	.160 <T	.140 <T
OCT	.230	.050 <T	.070 <T	.060 <T	.040 <T	.040 <T
NOV	.210	.090 <T	.050 <T	.090 <T	.050 <T	.060 <T
DEC	.230 <T	.070 <T	.070 <T	.070 <T	.080 <T	BDL

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM WALLACEBURG WTP 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
VANADIUM (UG/L)				DET'N LIMIT = .050	GUIDELINE = N/A	
JAN	.360 <T	.410 <T	.390 <T	.350 <T	.310 <T	.310 <T
FEB	.350 <T	.620	.510	.510	.	.
	.370 <T	.580	.	.	.	.
MAR	.310 <T	.570	.460 <T	.450 <T	.400 <T	.430 <T
APR	.270 <T	.550	.370 <T	.400 <T	.350 <T	.410 <T
MAY	.420 <T	.700	.540	.580	.490 <T	.510
JUN	.420 <T	.630	.550	.610	.610	.660
JUL	.480 <T	.900	.690	.710	.650	.700
AUG	.430 <T	ISM	.580	.680	.540	.540
SEP	.330 <T	.740	.700	.610	.740	.570
OCT	.400 <T	.520	.570	.460 <T	.370 <T	.420 <T
NOV	.410 <T	.590	.470 <T	.480 <T	.340 <T	.380 <T
DEC	.210 <T	.320 <T	.530	.250 <T	.230 <T	.240 <T
ZINC (UG/L)				DET'N LIMIT = .001	GUIDELINE = 5000. (A3)	
JAN	2.400	15.000	43.000	1.700	19.000	7.000
FEB	2.900	7.700	140.000	2.000	.	.
	3.400	2.800	.	.	.	.
MAR	3.200	4.700	74.000	2.400	4.800	1.900
APR	3.300	9.800	62.000	3.000	5.700	2.900
MAY	3.000	6.500	57.000	2.300	4.800	3.300
JUN	3.400	13.000	61.000	3.000	12.000	3.200
JUL	5.900	12.000	56.000	1.800	11.000	2.300
AUG	2.700	ISM	54.000	2.300	4.400	2.100
SEP	3.000	11.000	27.000	1.500	16.000	2.000
OCT	1.700	8.400	6.800	3.300	17.000	2.200
NOV	2.600	6.700	6.300	1.800	3.500	2.200
DEC	2.500	1.100 <T	14.000	1.800 <T	9.000	1.400 <T

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM WALLACEBURG WTP 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
CHLOROAROMATICS						
HEXACHLOROBUTADIENE (NG/L)			DET'N LIMIT = 1.000		GUIDELINE = 450 (D4)	
JAN	BDL	BDL	.	BDL	.	BDL
FEB	3.000 <T	BDL	.	BDL	.	.
	BDL	BDL	.	.	.	.
MAR	BDL	BDL	.	BDL	.	BDL
APR	BDL	BDL	.	BDL	.	BDL
MAY	BDL	BDL	.	BDL	.	BDL
JUN	BDL	BDL	.	BDL	.	BDL
JUL	BDL	BDL	.	BDL	.	BDL
AUG	BDL	BDL	.	BDL	.	BDL
SEP	BDL	BDL	.	BDL	.	BDL
OCT	BDL	BDL	.	BDL	.	BDL
NOV	BDL	BDL	.	BDL	.	BDL
DEC	BDL	BDL	.	BDL	.	BDL

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM WALLACEBURG WTP 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
PESTICIDES & PCB						
ALPHA BHC (NG/L)			DET'N LIMIT = 1.000		GUIDELINE = 700 (G)	
JAN	2.000 <T	3.000 <T	.	BDL	.	1.000 <T
FEB	2.000 <T	BDL	.	BDL	.	.
	1.000 <T	BDL	.	.	.	.
MAR	2.000 <T	1.000 <T	.	BDL	.	1.000 <T
APR	BDL	BDL	.	BDL	.	BDL
MAY	BDL	BDL	.	BDL	.	BDL
JUN	BDL	BDL	.	BDL	.	BDL
JUL	2.000 <T	BDL	.	BDL	.	BDL
AUG	BDL	BDL	.	BDL	.	2.000 <T
SEP	1.000 <T	BDL	.	BDL	.	BDL
OCT	2.000 <T	BDL	.	BDL	.	BDL
NOV	1.000 <T	BDL	.	BDL	.	BDL
DEC	2.000 <T	BDL	.	BDL	.	BDL
LINDANE (NG/L)			DET'N LIMIT = 1.000		GUIDELINE = 4000 (A1)	
JAN	2.000 <T	BDL	.	BDL	.	BDL
FEB	BDL	BDL	.	BDL	.	.
	BDL	BDL	.	.	.	.
MAR	BDL	BDL	.	BDL	.	BDL
APR	BDL	BDL	.	BDL	.	BDL
MAY	BDL	BDL	.	BDL	.	BDL
JUN	BDL	BDL	.	BDL	.	BDL
JUL	BDL	BDL	.	BDL	.	BDL
AUG	BDL	BDL	.	BDL	.	BDL
SEP	BDL	BDL	.	BDL	.	BDL
OCT	BDL	BDL	.	BDL	.	BDL
NOV	BDL	BDL	.	BDL	.	BDL
DEC	BDL	BDL	.	BDL	.	BDL
ATRAZINE (NG/L)			DET'N LIMIT = 50.00		GUIDELINE = 60000 (B3)	
JAN	BDL	BDL	.	BDL	.	BDL
FEB	BDL	BDL	.	BDL	.	.
	BDL	BDL	.	.	.	.
MAR	BDL	BDL	.	BDL	.	BDL
APR	BDL	BDL	.	BDL	.	BDL
MAY	BDL	BDL	.	BDL	.	BDL
JUN	BDL	BDL	.	BDL	.	BDL
JUL	BDL	BDL	.	BDL	.	BDL
AUG	BDL	BDL	.	.	.	.
SEP	106.000 <T	BDL	.	.	.	.
OCT	180.000 <T	BDL	.	.	.	.
NOV	BDL	BDL	.	.	.	.
DEC	BDL	BDL	.	.	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM WALLACEBURG WTP 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
PHENOLICS (UG/L PHENOLICS)			DET'N LIMIT = 0.2		GUIDELINE = 2.00 (A3)	
JAN	IIS	1.600	.	.	.	.
FEB	1.200	2.000	.	.	.	.
	1.600	1.600	.	.	.	.
MAR	.600 <T	.400 <T	.	.	.	.
APR	1.000	.800 <T	.	.	.	.
MAY	1.000	.600 <T	.	.	.	.
JUN	.800 <T	.400 <T	.	.	.	.
JUL	1.000	.600 <T	.	.	.	.
AUG	IIS	BDL	.	.	.	.
SEP	.800 <T	.400 <T	.	.	.	.
OCT	1.600	1.000 <T	.	.	.	.
NOV	BDL	BDL	.	.	.	.
DEC	BDL	BDL	.	.	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM WALLACEBURG WTP 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
VOLATILES						
BENZENE (UG/L)				DET'N LIMIT = .050	GUIDELINE = 5.0 (B1)	
JAN	.200 <T	.150 <T	.	.150 <T	.	.150 <T
FEB	.250 <T	.200 <T	.	.150 <T	.	.
	.550	.	.	.	.	.
	.450 <T	.100 <T	.	.	.	.
MAR	.150 <T	.050 <T	.	.100 <T	.	.100 <T
APR	.250 <T	.050 <T	.	.100 <T	.	.050 <T
MAY	.100 <T	BDL	.	.100 <T	.	.050 <T
JUN	.200 <T	.050 <T	.	BDL	.	BDL
JUL	.050 <T	BDL	.	BDL	.	BDL
AUG	BDL	.050 <T	.	.050 <T	.	BDL
SEP	.100 <T	.050 <T	.	IU	.	.050 <T
OCT	BDL	BDL	.	BDL	.	BDL
NOV	BDL	BDL	.	BDL	.	BDL
DEC	BDL	BDL	.	BDL	.	BDL
TOLUENE (UG/L)				DET'N LIMIT = .050	GUIDELINE = 24.0 (B4)	
JAN	.100 <T	.100 <T	.	.100 <T	.	.100 <T
FEB	.050 <T	.050 <T	.	BDL	.	.
	BDL	BDL	.	.	.	.
MAR	BDL	BDL	.	BDL	.	BDL
APR	3.200	.400 <T	.	.300 <T	.	.500
MAY	BDL	BDL	.	.050 <T	.	BDL
JUN	.350 <T	.100 <T	.	.100 <T	.	.100 <T
JUL	BDL	.050 <T	.	.150 <T	.	.100 <T
AUG	BDL	.100 <T	.	.100 <T	.	.100 <T
SEP	.150 <T	BDL	.	IU	.	BDL
OCT	BDL	BDL	.	BDL	.	BDL
NOV	BDL	BDL	.	BDL	.	BDL
DEC	BDL	BDL	.	BDL	.	BDL
ETHYLBENZENE (UG/L)				DET'N LIMIT = .050	GUIDELINE = 2.4 (B4)	
JAN	.100 <T	BDL	.	BDL	.	BDL
FEB	BDL	BDL	.	BDL	.	.
	.100 <T	BDL	.	.	.	.
MAR	.050 <T	BDL	.	BDL	.	.050 <T
APR	.250 <T	.100 <T	.	.050 <T	.	.150 <T
MAY	BDL	BDL	.	BDL	.	BDL
JUN	.100 <T	.050 <T	.	.050 <T	.	.050 <T
JUL	BDL	BDL	.	BDL	.	BDL
AUG	BDL	BDL	.	BDL	.	BDL
SEP	BDL	BDL	.	IU	.	BDL
OCT	BDL	BDL	.	BDL	.	BDL
NOV	BDL	BDL	.	BDL	.	BDL
DEC	BDL	BDL	.	.050 <T	.	BDL
M-XYLENE (UG/L)				DET'N LIMIT = .100	GUIDELINE = 300 (B4)	

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM WALLACEBURG WTP 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
JAN	BDL	BDL	.	BDL	.	BDL
FEB	BDL	BDL	.	BDL	.	.
	.200 <T	BDL	.	.	.	.
MAR	BDL	BDL	.	BDL	.	BDL
APR	.700 <T	.100 <T	.	BDL	.	.200 <T
MAY	BDL	BDL	.	BDL	.	BDL
JUN	.200 <T	BDL	.	BDL	.	BDL
JUL	BDL	BDL	.	.100 <T	.	BDL
AUG	BDL	BDL	.	BDL	.	BDL
SEP	BDL	BDL	.	IU	.	BDL
OCT	BDL	BDL	.	BDL	.	BDL
NOV	BDL	BDL	.	BDL	.	BDL
DEC	BDL	BDL	.	BDL	.	BDL
O-XYLENE (UG/L)				DET'N LIMIT = .050 GUIDELINE = 300 (B4)		
JAN	BDL	BDL	.	BDL	.	BDL
FEB	BDL	BDL	.	BDL	.	.
	.100 <T	BDL	.	.	.	.
MAR	BDL	BDL	.	BDL	.	BDL
APR	.250 <T	.100 <T	.	BDL	.	.050 <T
MAY	BDL	BDL	.	BDL	.	BDL
JUN	.100 <T	.050 <T	.	BDL	.	BDL
JUL	BDL	BDL	.	.050 <T	.	BDL
AUG	BDL	BDL	.	BDL	.	BDL
SEP	BDL	BDL	.	IU	.	BDL
OCT	BDL	BDL	.	BDL	.	BDL
NOV	BDL	BDL	.	BDL	.	BDL
DEC	BDL	BDL	.	BDL	.	BDL
STYRENE (UG/L)				DET'N LIMIT = .050 GUIDELINE = 46.5 (D2)		
JAN	.200 <T	BDL	.	BDL	.	BDL
FEB	.100 <T	BDL	.	BDL	.	.
	BDL	BDL	.	.	.	.
MAR	.100 <T	BDL	.	.050 <T	.	.050 <T
APR	.300 <T	BDL	.	BDL	.	.050 <T
MAY	BDL	BDL	.	.100 <T	.	BDL
JUN	.200 <T	.050 <T	.	.350 <T	.	.300 <T
JUL	BDL	BDL	.	.050 <T	.	BDL
AUG	BDL	BDL	.	.050 <T	.	BDL
SEP	BDL	.400 <T	.	IU	.	BDL
OCT	BDL	BDL	.	BDL	.	BDL
NOV	.100 <T	.150 <T	.	.150 <T	.	.050 <T
DEC	BDL	BDL	.	BDL	.	.150 <T
CHLOROFORM (UG/L)				DET'N LIMIT = .100 GUIDELINE = 350 (A1+)		
JAN	.100 <T	10.000	.	5.700	.	9.700
FEB	BDL	5.000	.	4.100	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM WALLACEBURG WTP 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
FEB	BDL	7.200	.	.	.	.
MAR	.200 <T	11.500	.	5.500	.	7.000
APR	.200 <T	8.900	.	4.900	.	4.200
MAY	BDL	8.000	.	4.500	.	5.300
JUN	BDL	14.000	.	9.800	.	13.200
JUL	.100 <T	15.600	.	7.600	.	10.100
AUG	.700 <T	15.700	.	11.400	.	13.600
SEP	.300 <T	25.400	.	IU	.	17.000
OCT	BDL	8.100	.	6.500	.	7.000
NOV	BDL	7.500	.	5.700	.	6.700
DEC	BDL	11.800	.	6.100	.	9.300
111, TRICHLOROETHANE (UG/L)				DET'N LIMIT = .020	GUIDELINE = 200 (D1)	
JAN	BDL	BDL	.	BDL	.	BDL
FEB	BDL	BDL	.	BDL	.	.
	BDL	BDL	.	.	.	.
MAR	.040 <T	.020 <T	.	.020 <T	.	.020 <T
APR	BDL	BDL	.	BDL	.	BDL
MAY	BDL	BDL	.	BDL	.	BDL
JUN	BDL	BDL	.	BDL	.	BDL
JUL	BDL	BDL	.	BDL	.	BDL
AUG	BDL	BDL	.	BDL	.	BDL
SEP	.020 <T	BDL	.	IU	.	BDL
OCT	BDL	BDL	.	BDL	.	BDL
NOV	BDL	BDL	.	BDL	.	BDL
DEC	BDL	BDL	.	BDL	.	BDL
CARBON TETRACHLORIDE (UG/L)				DET'N LIMIT = .200	GUIDELINE = 5.0 (D1)	
JAN	BDL	BDL	.	BDL	.	BDL
FEB	BDL	BDL	.	BDL	.	.
	BDL	BDL	.	.	.	.
MAR	BDL	BDL	.	BDL	.	BDL
APR	BDL	BDL	.	BDL	.	BDL
MAY	BDL	BDL	.	BDL	.	BDL
JUN	BDL	BDL	.	BDL	.	BDL
JUL	BDL	BDL	.	BDL	.	BDL
AUG	BDL	BDL	.	BDL	.	BDL
SEP	BDL	BDL	.	IU	.	BDL
OCT	BDL	BDL	.	BDL	.	BDL
NOV	BDL	.400 <T	.	.400 <T	.	BDL
DEC	BDL	BDL	.	BDL	.	BDL
1,2 DICHLOROPROPANE (UG/L)				DET'N LIMIT = .050	GUIDELINE = 10.0 (G)	
JAN	BDL	BDL	.	BDL	.	BDL
FEB	BDL	BDL	.	BDL	.	.
	BDL	BDL	.	.	.	.
MAR	BDL	BDL	.	BDL	.	BDL

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM WALLACEBURG WTP 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
APR	BDL	BDL	.	BDL	.	BDL
MAY	BDL	BDL	.	BDL	.	BDL
JUN	BDL	BDL	.	BDL	.	BDL
JUL	BDL	BDL	.	BDL	.	BDL
AUG	BDL	BDL	.	BDL	.	BDL
SEP	BDL	BDL	.	IU	.	BDL
OCT	BDL	BDL	.	BDL	.	BDL
NOV	BDL	BDL	.	BDL	.	BDL
DEC	.300 <T	BDL	.	BDL	.	BDL
DICHLOROBROMOMETHANE (UG/L)				DET'N LIMIT = .050	GUIDELINE = 350 (A1+)	
JAN	BDL	5.800	.	5.500	.	5.850
FEB	BDL	6.850	.	6.500	.	.
	BDL	5.850	.	.	.	.
MAR	BDL	6.350	.	5.350	.	6.400
APR	.100 <T	8.650	.	7.800	.	7.500
MAY	BDL	6.400	.	6.300	.	6.700
JUN	BDL	7.100	.	7.050	.	8.000
JUL	BDL	9.600	.	9.300	.	9.150
AUG	BDL	8.800	.	7.850	.	8.250
SEP	BDL	12.300	.	IU	.	10.750
OCT	BDL	6.250	.	5.900	.	5.900
NOV	BDL	8.800	.	8.000	.	7.950
DEC	BDL	8.050	.	6.300	.	7.500
CHLORODIBROMOMETHANE (UG/L)				DET'N LIMIT = .100	GUIDELINE = 350 (A1+)	
JAN	BDL	2.900	.	2.900	.	2.900
FEB	BDL	5.500	.	5.500	.	.
	BDL	5.300	.	.	.	.
MAR	BDL	2.800	.	2.600	.	3.200
APR	BDL	7.600	.	7.600	.	7.100
MAY	BDL	6.300	.	6.900	.	6.800
JUN	BDL	2.500	.	2.800	.	3.100
JUL	BDL	7.900	.	8.200	.	7.500
AUG	BDL	4.400	.	4.400	.	4.600
SEP	BDL	6.900	.	IU	.	6.700
OCT	BDL	3.300	.	4.000	.	3.900
NOV	BDL	7.400	.	7.300	.	7.300
DEC	BDL	4.300	.	3.900	.	3.900
T-CHLOROETHYLENE (UG/L)				DET'N LIMIT = .050	GUIDELINE = 10.0 (C2)	
JAN	.100 <T	BDL	.	BDL	.	BDL
FEB	BDL	BDL	.	BDL	.	.
	BDL	BDL	.	.	.	.
MAR	BDL	BDL	.	BDL	.	BDL
APR	BDL	BDL	.	BDL	.	BDL
MAY	BDL	BDL	.	BDL	.	BDL

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM WALLACEBURG WTP 1989

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
JUN	BDL	BDL	.	.050 <T	.	.050 <T
JUL	BDL	BDL	.	.050 <T	.	.050 <T
AUG	BDL	BDL	.	BDL	.	BDL
SEP	BDL	.100 <T	.	IU	.	BDL
OCT	BDL	BDL	.	BDL	.	BDL
NOV	BDL	BDL	.	BDL	.	BDL
DEC	BDL	BDL	.	BDL	.	BDL
BROMOFORM (UG/L)				DET'N LIMIT = .200	GUIDELINE = 350 (A1+)	
JAN	BDL	.200 <T	.	.400 <T	.	.200 <T
FEB	BDL	1.000 <T	.	1.000 <T	.	.
	BDL	1.200 <T	.	.	.	.
MAR	BDL	.400 <T	.	.400 <T	.	.400 <T
APR	BDL	1.400 <T	.	1.200 <T	.	1.400 <T
MAY	BDL	1.800 <T	.	1.600 <T	.	1.400 <T
JUN	BDL	.400 <T	.	.400 <T	.	.400 <T
JUL	BDL	1.600 <T	.	1.400 <T	.	1.600 <T
AUG	BDL	.600 <T	.	.600 <T	.	.600 <T
SEP	BDL	1.000 <T	.	IU	.	1.000 <T
OCT	BDL	.400 <T	.	.800 <T	.	.600 <T
NOV	BDL	1.600 <T	.	1.800 <T	.	1.800 <T
DEC	BDL	.800 <T	.	.800 <T	.	.600 <T
TOTL TRIHALOMETHANES (UG/L)				DET'N LIMIT = .500	GUIDELINE = 350 (A1)	
JAN	BDL	18.900	.	14.500	.	18.650
FEB	BDL	18.350	.	17.100	.	.
	BDL	19.550	.	.	.	.
MAR	BDL	21.050	.	13.850	.	17.000
APR	BDL	26.550	.	21.500	.	20.200
MAY	BDL	22.500	.	19.300	.	20.200
JUN	BDL	24.000	.	20.050	.	24.700
JUL	BDL	34.700	.	26.500	.	28.350
AUG	.700 <T	29.500	.	24.250	.	27.050
SEP	BDL	45.600	.	IU	.	35.450
OCT	BDL	18.050	.	17.200	.	17.400
NOV	BDL	25.300	.	22.800	.	23.750
DEC	BDL	24.850	.	16.950	.	21.300

TRACE LEVELS OF TOLUENE ARE LABORATORY ARTIFACTS DERIVED FROM THE ANALYTICAL METHODOLOGY.

TRACE LEVELS OF STYRENE ARE CONSIDERED TO BE LABORATORY ARTIFACTS RESULTING FROM THE LABORATORY SHIPPING CONTAINERS.

Table 6

SCAN/PARAMETER	UNIT	DETECTION LIMIT	GUIDELINE
BACTERIOLOGICAL			
FECAL COLIFORM MEMBRANE FILTRATION	CT/100ML	0	0 (A1)
STANDARD PLATE COUNT MEMBRANE FILTRATION	CT/ML	0	500/ML (A1)
TOTAL COLIFORM MEMBRANE FILTRATION	CT/100ML	0	5/100mL (A1)
TOTAL COLIFORM BACKGROUND MF	CT/100ML	0	N/A
CHLOROAROMATICS			
HEXACHLOROBUTADIENE	NG/L	1.000	450. (D4)
1,2,3-TRICHLOROBENZENE	NG/L	5.000	10000 (I)
1,2,3,4-TETRACHLOROBENZENE	NG/L	1.000	10000 (I)
1,2,3,5-TETRACHLOROBENZENE	NG/L	1.000	10000 (I)
1,2,4-TRICHLOROBENZENE	NG/L	5.000	10000 (I)
1,2,4,5-TETRACHLOROBENZENE	NG/L	1.000	38000 (D4)
1,3,5-TRICHLOROBENZENE	NG/L	5.000	10000 (D4)
HEXACHLOROBENZENE	NG/L	1.0	10. (C1)
HEXACHLOROETHANE	NG/L	1.000	1900. (D4)
OCTACHLOROSTYRENE	NG/L	1.000	N/A
PENTACHLOROBENZENE	NG/L	1.000	74000 (D4)
2,3,6-TRICHLOROTOLUENE	NG/L	5.000	N/A
2,4,5-TRICHLOROTOLUENE	NG/L	5.000	N/A
2,6,A-TRICHLOROTOLUENE	NG/L	5.000	N/A
CHLOROPHENOLS			
2,3,4-TRICHLOROPHENOL	NG/L	50.	N/A
2,3,4,5-TETRACHLOROPHENOL	NG/L	50.	N/A
2,3,5,6-TETRACHLOROPHENOL	NG/L	50.	N/A
2,4,5-TRICHLOROPHENOL	NG/L	50.	2600000 (D4)
2,4,6-TRICHLOROPHENOL	NG/L	50.	2000. (B4)
PENTACHLOROPHENOL	NG/L	50.	30000. (B4)
CHEMISTRY (FLD)			
FIELD COMBINED CHLORINE RESIDUAL	MG/L	N/A	N/A
FIELD FREE CHLORINE RESIDUAL	MG/L	N/A	N/A
FIELD TOTAL CHLORINE RESIDUAL	MG/L	N/A	N/A
FIELD PH	DMSNLESS	N/A	6.5-8.5 (A4)
FIELD TEMPERATURE	^{o}C	N/A	<15 ^{o}C (A1)
FIELD TURBIDITY	FTU	N/A	1.0 (A1)
CHEMISTRY (LAB)			
ALKALINITY	MG/L	.200	30-500 (A4)
CALCIUM	MG/L	.100	100. (F2)
CYANIDE	MG/L	.001	.20 (A1)
CHLORIDE	MG/L	.200	250. (A3)
COLOUR	TCU	.5	5.0 (A3)
CONDUCTIVITY	UMHO/CM	1.	400. (F2)
FLUORIDE	MG/L	.01	2.4 (A1)
HARDNESS	MG/L	.50	80-100 (A4)
MAGNESIUM	MG/L	.05	30. (F2)

SCAN/PARAMETER	UNIT	DETECTION LIMIT	GUIDELINE
NITRITE	MG/L	.001	1.0 (A1)
TOTAL NITRATES	MG/L	.02	10. (A1)
NITROGEN TOTAL KJELDAHL	MG/L	.02	N/A
PH	DMSNLESS	N/A	6.5-8.5(A4)
PHOSPHORUS FIL REACT	MG/L	.0005	N/A
PHOSPHORUS TOTAL	MG/L	.002	.40(F2)
SULPHATE	MG/L	.200	500. (A3)
TOTAL SOLIDS	MG/L	1.	500. (A3)
TURBIDITY	FTU	.02	1.0 (A1)
METALS			
ALUMINUM	UG/L	.050	100. (A4)
ANTIMONY	UG/L	.050	10. (F3)
ARSENIC	UG/L	.050	50. (A1)
BARIUM	UG/L	.020	1000. (A1)
BORON	UG/L	.200	5000. (A1)
BERYLLIUM	UG/L	.010	0.20 (H)
CADMIUM	UG/L	.050	5.0 (A1)
COBALT	UG/L	.020	1000. (H)
CHROMIUM	UG/L	.100	50. (A1)
COPPER	UG/L	.100	1000. (A3)
IRON	UG/L	5.0	300. (A3)
MERCURY	UG/L	.01	1.0 (A1)
MANGANESE	UG/L	.050	50. (A3)
MOLYBDENUM	UG/L	.020	500. (H)
NICKEL	UG/L	.100	50. (F3)
LEAD	UG/L	.020	50. (A1)
SELENIUM	UG/L	.200	10. (A1)
SILVER	UG/L	.020	50. (A1)
STRONTIUM	UG/L	.100	2000. (H)
THALLIUM	UG/L	.010	13. (D4)
TITANIUM	UG/L	.100	N/A
URANIUM	UG/L	.020	20. (A2)
VANADIUM	UG/L	.020	100. (H)
ZINC	UG/L	.020	5000. (A3)
PHENOLICS			
PHENOLICS (UNFILTERED REACTIVE)	UG/L	.2	2.0 (A3)
PESTICIDES & PCB			
ALDRIN	NG/L	1.0	700. (A1)
AMETRINE	NG/L	50.	300000. (D3)
ATRAZINE	NG/L	50.	60000. (B3)
ALPHA HEXACHLOROCYCLOHEXANE (BHC)	NG/L	1.0	700. (G)
BETA HEXACHLOROCYCLOHEXANE (BHC)	NG/L	1.0	300. (G)
GAMMA HEXACHLOROCYCLOHEXANE(LINDANE)	NG/L	1.0	4000. (A1)
ALPHA CHLORDANE	NG/L	2.0	7000. (A1)
GAMMA CHLORDANE	NG/L	2.0	7000. (A1)
BLADEX	NG/L	100.	10000. (B3)
DIELDRIN	NG/L	2.0	700. (A1)
METHOXYCHLOR	NG/L	5.0	900000. (B1)
ENDOSULFAN 1 (THIODAN I)	NG/L	2.0	74000. (D4)
ENDOSULFAN 2 (THIODAN II)	NG/L	4.0	74000. (D4)
ENDRIN	NG/L	4.0	200. (A1)
ENDOSULFAN SULPHATE(THIODAN SULPHATE)	NG/L	4.0	N/A

SCAN/PARAMETER	UNIT	DETECTION LIMIT	GUIDELINE	
HEPTACHLOR EPOXIDE	NG/L	1.0	3000.	(A1)
HEPTACHLOR	NG/L	1.0	3000.	(A1)
METOLACHLOR	NG/L	500.	50000.	(B3)
MIREX	NG/L	5.0	N/A	
OXYCHLORDANE	NG/L	2.0	N/A	
O,P-DDT	NG/L	5.0	30000.	(A1)
PCB	NG/L	20.0	3000.	(A2)
O,P-DDD	NG/L	5.0	N/A	
PPDDE	NG/L	1.0	30000.	(A1)
PPDDT	NG/L	5.0	30000.	(A1)
ATRATONE	NG/L	50.	N/A	
ALACHLOR	NG/L	500.	35000.	(D2)
PROMETONE	NG/L	50.	52500.	(D3)
PROPAZINE	NG/L	50.	16000.	(D2)
PROMETRYNE	NG/L	50.	1000.	(B3)
SENCOR (METRIBUZIN)	NG/L	100.	80000.	(B2)
SIMAZINE	NG/L	50.	10000.	(B3)
POLYAROMATIC HYDROCARBONS				
PHENANTHRENE	NG/L	10.0	N/A	
ANTHRACENE	NG/L	1.0	N/A	
FLUORANTHENE	NG/L	20.0	42000.	(D4)
PYRENE	NG/L	20.0	N/A	
BENZO(A)ANTHRACENE	NG/L	20.0	N/A	
CHRYSENE	NG/L	50.0	N/A	
DIMETHYL BENZO(A)ANTHRACENE	NG/L	5.0	N/A	
BENZO(E)PYRENE	NG/L	50.0	N/A	
BENZO(B)FLUORANTHENE	NG/L	10.0	N/A	
PERYLENE	NG/L	10.0	N/A	
BENZO(K)FLUORANTHENE	NG/L	1.0	N/A	
BENZO(A)PYRENE	NG/L	5.0	10.	(B1)
BENZO(G,H,I)PERYLENE	NG/L	20.0	N/A	
DIBENZO(A,H)ANTHRACENE	NG/L	10.0	N/A	
INDENO(1,2,3-C,D)PYRENE	NG/L	20.0	N/A	
BENZO(B)CHRYSENE	NG/L	2.0	N/A	
CORONENE	NG/L	10.0	N/A	
SPECIFIC PESTICIDES				
TOXAPHENE	NG/L	N/A	5000.	(A1)
2,4,5-TRICHLOROBUTYRIC ACID (2,4,5-T)	NG/L	50.	200000.	(B4)
2,4-DICHLOROBUTYRIC ACID (2,4-D)	NG/L	100.	100000.	(A1)
2,4-DICHLORORPHENOXYBUTYRIC ACID	NG/L	200.	18000.	(B3)
2,4-D PROPIONIC ACID	NG/L	100.	N/A	
DICAMBA	NG/L	100.	120000.	(B1)
PICLORAM	NG/L	100.	190000.	(B3)
SILVEX (2,4,5-TP)	NG/L	50.	10000.	(A1)
DIAZINON	NG/L	20.	20000.	(B1)
DICHLOROVOS	NG/L	20.	N/A	
DURSBAN	NG/L	20.	N/A	
ETHION	NG/L	20.	35000.	(G)
GUTHION(AZINPHOSMETHYL)	NG/L	N/A	20000.	(B1)
MALATHION	NG/L	20.	190000.	(B1)
MEVINPHOS	NG/L	20.	N/A	
METHYL PARATHION	NG/L	50.	7000.	(A1)
METHYLTRITHION	NG/L	20.	N/A	

SCAN/PARAMETER	UNIT	DETECTION LIMIT	GUIDELINE	
PARATHION	NG/L	20.	50000.	(B1)
PHORATE (THIMET)	NG/L	20.	2000.	(B3)
RELDAN	NG/L	20.	N/A	
RONNEL	NG/L	20.	N/A	
AMINOCARB	NG/L	N/A	N/A	
BENONYL	NG/L	N/A	N/A	
BUX (METALKAMATE)	NG/L	2000.	N/A	
CARBOFURAN	NG/L	2000.	90000.	(B1)
CICP (CHLORPROPHAM)	NG/L	2000.	350000.	(G)
DIALLATE	NG/L	2000.	30000.	(H)
EPTAM	NG/L	2000.	N/A	
IPC	NG/L	2000.	N/A	
PROPOXUR (BAYGON)	NG/L	2000.	90000.	(G)
SEVIN (CARBARYL)	NG/L	200.	90000.	(B1)
SUTAN (BUTYLATE)	NG/L	2000.	245000.	(D3)
VOLATILES				
BENZENE	UG/L	.050	5.0	(B1)
TOLUENE	UG/L	.050	24.0	(B4)
ETHYLBENZENE	UG/L	.050	2.4	(B4)
PARA-XYLENE	UG/L	.100	300.	(B4)
META-XYLENE	UG/L	.100	300.	(B4)
ORTHO-XYLENE	UG/L	.050	300.	(B4)
1,1-DICHLOROETHYLENE	UG/L	.100	7.0	(D1)
ETHLYENE DIBROMIDE	UG/L	.05	.05	G)
METHYLENE CHLORIDE	UG/L	.500	50.	(B1)
TRANS-1,2-DICHLOROETHYLENE	UG/L	.100	70.	(D5)
1,1-DICHLOROETHANE	UG/L	.100	N/A	
CHLOROFORM	UG/L	.100	350.	(A1+)
1,1,1-TRICHLOROETHANE	UG/L	.020	200.	(D1)
1,2-DICHLOROETHANE	UG/L	.050	5.0	(D1)
CARBON TETRACHLORIDE	UG/L	.200	5.0	(B1)
1,2-DICHLOROPROPANE	UG/L	.050	6.0	(D5)
TRICHLOROETHYLENE	UG/L	.100	50.	(B1)
DICHLOROBROMOMETHANE	UG/L	.050	350.	(A1+)
1,1,2-TRICHLOROETHANE	UG/L	.050	.60	(D4)
CHLORODIBROMOMETHANE	UG/L	.100	350.	(A1+)
TETRACHLOROETHYLENE	UG/L	.050	10.0	(C2)
BROMOFORM	UG/L	.200	350.	(A1+)
1,1,2,2-TETRACHLOROETHANE	UG/L	.050	0.17	(D4)
CHLOROBENZENE	UG/L	.100	60.	(D5)
1,4-DICHLOROBENZENE	UG/L	.100	1.0	(B4)
1,3-DICHLOROBENZENE	UG/L	.100	130.	(G)
1,2-DICHLOROBENZENE	UG/L	.050	3.0	(B4)
TRIFLUOROCHLOROTOLUENE	UG/L	.100	N/A	
TOTAL TRIHALOMETHANES	UG/L	.500	350.	(A1)
STYRENE	UG/L	.05	140.	(D5)

Table 6

SCAN/PARAMETER	UNIT	DETECTION LIMIT	GUIDELINE
BACTERIOLOGICAL			
FECAL COLIFORM MEMBRANE FILTRATION	CT/100ML	0	0 (A1)
STANDARD PLATE COUNT MEMBRANE FILTRATION	CT/ML	0	500/ML (A1)
TOTAL COLIFORM MEMBRANE FILTRATION	CT/100ML	0	5/100mL (A1)
TOTAL COLIFORM BACKGROUND MF	CT/100ML	0	N/A
CHLOROAROMATICS			
HEXACHLOROBUTADIENE	NG/L	1.000	450. (D4)
1,2,3-TRICHLOROBENZENE	NG/L	5.000	10000 (I)
1,2,3,4-TETRACHLOROBENZENE	NG/L	1.000	10000 (I)
1,2,3,5-TETRACHLOROBENZENE	NG/L	1.000	10000 (I)
1,2,4-TRICHLOROBENZENE	NG/L	5.000	10000 (I)
1,2,4,5-TETRACHLOROBENZENE	NG/L	1.000	38000 (D4)
1,3,5-TRICHLOROBENZENE	NG/L	5.000	10000 (D4)
HEXACHLOROBENZENE	NG/L	1.0	10. (C1)
HEXACHLOROETHANE	NG/L	1.000	1900. (D4)
OCTACHLOROSTYRENE	NG/L	1.000	N/A
PENTACHLOROBENZENE	NG/L	1.000	74000 (D4)
2,3,6-TRICHLOROTOLUENE	NG/L	5.000	N/A
2,4,5-TRICHLOROTOLUENE	NG/L	5.000	N/A
2,6,A-TRICHLOROTOLUENE	NG/L	5.000	N/A
CHLOROPHENOLS			
2,3,4-TRICHLOROPHENOL	NG/L	50.	N/A
2,3,4,5-TETRACHLOROPHENOL	NG/L	50.	N/A
2,3,5,6-TETRACHLOROPHENOL	NG/L	50.	N/A
2,4,5-TRICHLOROPHENOL	NG/L	50.	2600000 (D4)
2,4,6-TRICHLOROPHENOL	NG/L	50.	2000. (B4)
PENTACHLOROPHENOL	NG/L	50.	30000. (B4)
CHEMISTRY (FLD)			
FIELD COMBINED CHLORINE RESIDUAL	MG/L	N/A	N/A
FIELD FREE CHLORINE RESIDUAL	MG/L	N/A	N/A
FIELD TOTAL CHLORINE RESIDUAL	MG/L	N/A	N/A
FIELD PH	DMSNLESS	N/A	6.5-8.5 (A4)
FIELD TEMPERATURE	^{o}C	N/A	<15 ^{o}C (A1)
FIELD TURBIDITY	FTU	N/A	1.0 (A1)
CHEMISTRY (LAB)			
ALKALINITY	MG/L	.200	30-500 (A4)
CALCIUM	MG/L	.100	100. (F2)
CYANIDE	MG/L	.001	.20 (A1)
CHLORIDE	MG/L	.200	250. (A3)
COLOUR	TCU	.5	5.0 (A3)
CONDUCTIVITY	UMHO/CM	1.	400. (F2)
FLUORIDE	MG/L	.01	2.4 (A1)
HARDNESS	MG/L	.50	80-100 (A4)
MAGNESIUM	MG/L	.05	30. (F2)

SCAN/PARAMETER	UNIT	DETECTION LIMIT	GUIDELINE
NITRITE	MG/L	.001	1.0 (A1)
TOTAL NITRATES	MG/L	.02	10. (A1)
NITROGEN TOTAL KJELDAHL	MG/L	.02	N/A
PH	DMSNLESS	N/A	6.5-8.5(A4)
PHOSPHORUS FIL REACT	MG/L	.0005	N/A
PHOSPHORUS TOTAL	MG/L	.002	.40(F2)
SULPHATE	MG/L	.200	500. (A3)
TOTAL SOLIDS	MG/L	1.	500. (A3)
TURBIDITY	FTU	.02	1.0 (A1)
METALS			
ALUMINUM	UG/L	.050	100. (A4)
ANTIMONY	UG/L	.050	10. (F3)
ARSENIC	UG/L	.050	50. (A1)
BARIUM	UG/L	.020	1000. (A1)
BORON	UG/L	.200	5000. (A1)
BERYLLIUM	UG/L	.010	0.20 (H)
CADMIUM	UG/L	.050	5.0 (A1)
COBALT	UG/L	.020	1000. (H)
CHROMIUM	UG/L	.100	50. (A1)
COPPER	UG/L	.100	1000. (A3)
IRON	UG/L	5.0	300. (A3)
MERCURY	UG/L	.01	1.0 (A1)
MANGANESE	UG/L	.050	50. (A3)
MOLYBDENUM	UG/L	.020	500. (H)
NICKEL	UG/L	.100	50. (F3)
LEAD	UG/L	.020	50. (A1)
SELENIUM	UG/L	.200	10. (A1)
SILVER	UG/L	.020	50. (A1)
STRONTIUM	UG/L	.100	2000. (H)
THALLIUM	UG/L	.010	13. (D4)
TITANIUM	UG/L	.100	N/A
URANIUM	UG/L	.020	20. (A2)
VANADIUM	UG/L	.020	100. (H)
ZINC	UG/L	.020	5000. (A3)
PHENOLICS			
PHENOLICS (UNFILTERED REACTIVE)	UG/L	.2	2.0 (A3)
PESTICIDES & PCB			
ALDRIN	NG/L	1.0	700. (A1)
AMETRINE	NG/L	50.	300000. (D3)
ATRAZINE	NG/L	50.	60000. (B3)
ALPHA HEXACHLOROCYCLOHEXANE (BHC)	NG/L	1.0	700. (G)
BETA HEXACHLOROCYCLOHEXANE (BHC)	NG/L	1.0	300. (G)
GAMMA HEXACHLOROCYCLOHEXANE(LINDANE)	NG/L	1.0	4000. (A1)
ALPHA CHLORDANE	NG/L	2.0	7000. (A1)
GAMMA CHLORDANE	NG/L	2.0	7000. (A1)
BLADEX	NG/L	100.	10000. (B3)
DIELDRIN	NG/L	2.0	700. (A1)
METHOXYCHLOR	NG/L	5.0	900000. (B1)
ENDOSULFAN 1 (THIODAN I)	NG/L	2.0	74000. (D4)
ENDOSULFAN 2 (THIODAN II)	NG/L	4.0	74000. (D4)
ENDRIN	NG/L	4.0	200. (A1)
ENDOSULFAN SULPHATE(THIODAN SULPHATE)	NG/L	4.0	N/A

SCAN/PARAMETER	UNIT	DETECTION LIMIT	GUIDELINE	
HEPTACHLOR EPOXIDE	NG/L	1.0	3000.	(A1)
HEPTACHLOR	NG/L	1.0	3000.	(A1)
METOLACHLOR	NG/L	500.	50000.	(B3)
MIREX	NG/L	5.0	N/A	
OXYCHLORDANE	NG/L	2.0	N/A	
O,P-DDT	NG/L	5.0	30000.	(A1)
PCB	NG/L	20.0	3000.	(A2)
O,P-DDD	NG/L	5.0	N/A	
PPDDE	NG/L	1.0	30000.	(A1)
PPDDT	NG/L	5.0	30000.	(A1)
ATRATONE	NG/L	50.	N/A	
ALACHLOR	NG/L	500.	35000.	(D2)
PROMETONE	NG/L	50.	52500.	(D3)
PROPAZINE	NG/L	50.	16000.	(D2)
PROMETRYNE	NG/L	50.	1000.	(B3)
SENCOR (METRIBUZIN)	NG/L	100.	80000.	(B2)
SIMAZINE	NG/L	50.	10000.	(B3)
POLYAROMATIC HYDROCARBONS				
PHENANTHRENE	NG/L	10.0	N/A	
ANTHRACENE	NG/L	1.0	N/A	
FLUORANTHENE	NG/L	20.0	42000.	(D4)
PYRENE	NG/L	20.0	N/A	
BENZO(A)ANTHRACENE	NG/L	20.0	N/A	
CHRYSENE	NG/L	50.0	N/A	
DIMETHYL BENZO(A)ANTHRACENE	NG/L	5.0	N/A	
BENZO(E)PYRENE	NG/L	50.0	N/A	
BENZO(B)FLUORANTHENE	NG/L	10.0	N/A	
PERYLENE	NG/L	10.0	N/A	
BENZO(K)FLUORANTHENE	NG/L	1.0	N/A	
BENZO(A)PYRENE	NG/L	5.0	10.	(B1)
BENZO(G,H,I)PERYLENE	NG/L	20.0	N/A	
DIBENZO(A,H)ANTHRACENE	NG/L	10.0	N/A	
INDENO(1,2,3-C,D)PYRENE	NG/L	20.0	N/A	
BENZO(B)CHRYSENE	NG/L	2.0	N/A	
CORONENE	NG/L	10.0	N/A	
SPECIFIC PESTICIDES				
TOXAPHENE	NG/L	N/A	5000.	(A1)
2,4,5-TRICHLOROBUTYRIC ACID (2,4,5-T)	NG/L	50.	200000.	(B4)
2,4-DICHLOROBUTYRIC ACID (2,4-D)	NG/L	100.	100000.	(A1)
2,4-DICHLORORPHENOXYBUTYRIC ACID	NG/L	200.	18000.	(B3)
2,4-D PROPIONIC ACID	NG/L	100.	N/A	
DICAMBA	NG/L	100.	120000.	(B1)
PICLORAM	NG/L	100.	190000.	(B3)
SILVEX (2,4,5-TP)	NG/L	50.	10000.	(A1)
DIAZINON	NG/L	20.	20000.	(B1)
DICHLOROVOS	NG/L	20.	N/A	
DURSBAN	NG/L	20.	N/A	
ETHION	NG/L	20.	35000.	(G)
GUTHION(AZINPHOSMETHYL)	NG/L	N/A	20000.	(B1)
MALATHION	NG/L	20.	190000.	(B1)
MEVINPHOS	NG/L	20.	N/A	
METHYL PARATHION	NG/L	50.	7000.	(A1)
METHYLTRITHION	NG/L	20.	N/A	

SCAN/PARAMETER	UNIT	DETECTION LIMIT	GUIDELINE	
PARATHION	NG/L	20.	50000.	(B1)
PHORATE (THIMET)	NG/L	20.	2000.	(B3)
RELDAN	NG/L	20.	N/A	
RONNEL	NG/L	20.	N/A	
AMINOCARB	NG/L	N/A	N/A	
BENONYL	NG/L	N/A	N/A	
BUX (METALKAMATE)	NG/L	2000.	N/A	
CARBOFURAN	NG/L	2000.	90000.	(B1)
CICP (CHLORPROPHAM)	NG/L	2000.	350000.	(G)
DIALLATE	NG/L	2000.	30000.	(H)
EPTAM	NG/L	2000.	N/A	
IPC	NG/L	2000.	N/A	
PROPOXUR (BAYGON)	NG/L	2000.	90000.	(G)
SEVIN (CARBARYL)	NG/L	200.	90000.	(B1)
SUTAN (BUTYLATE)	NG/L	2000.	245000.	(D3)
VOLATILES				
BENZENE	UG/L	.050	5.0	(B1)
TOLUENE	UG/L	.050	24.0	(B4)
ETHYLBENZENE	UG/L	.050	2.4	(B4)
PARA-XYLENE	UG/L	.100	300.	(B4)
META-XYLENE	UG/L	.100	300.	(B4)
ORTHO-XYLENE	UG/L	.050	300.	(B4)
1,1-DICHLOROETHYLENE	UG/L	.100	7.0	(D1)
ETHLYENE DIBROMIDE	UG/L	.05	.05	G)
METHYLENE CHLORIDE	UG/L	.500	50.	(B1)
TRANS-1,2-DICHLOROETHYLENE	UG/L	.100	70.	(D5)
1,1-DICHLOROETHANE	UG/L	.100	N/A	
CHLOROFORM	UG/L	.100	350.	(A1+)
1,1,1-TRICHLOROETHANE	UG/L	.020	200.	(D1)
1,2-DICHLOROETHANE	UG/L	.050	5.0	(D1)
CARBON TETRACHLORIDE	UG/L	.200	5.0	(B1)
1,2-DICHLOROPROPANE	UG/L	.050	6.0	(D5)
TRICHLOROETHYLENE	UG/L	.100	50.	(B1)
DICHLOROBROMOMETHANE	UG/L	.050	350.	(A1+)
1,1,2-TRICHLOROETHANE	UG/L	.050	.60	(D4)
CHLORODIBROMOMETHANE	UG/L	.100	350.	(A1+)
TETRACHLOROETHYLENE	UG/L	.050	10.0	(C2)
BROMOFORM	UG/L	.200	350.	(A1+)
1,1,2,2-TETRACHLOROETHANE	UG/L	.050	0.17	(D4)
CHLOROBENZENE	UG/L	.100	60.	(D5)
1,4-DICHLOROBENZENE	UG/L	.100	1.0	(B4)
1,3-DICHLOROBENZENE	UG/L	.100	130.	(G)
1,2-DICHLOROBENZENE	UG/L	.050	3.0	(B4)
TRIFLUOROCHLOROTOLUENE	UG/L	.100	N/A	
TOTAL TRIHALOMETHANES	UG/L	.500	350.	(A1)
STYRENE	UG/L	.05	140.	(D5)